



Project-based practices for promoting a sustainability transition in a city organization and its urban context

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ABSTRACT

Projects have become vital in initiating urban sustainability changes. In this study, we address the research gap regarding the dual role of a project in advancing change in public organizations and helping them to adopt roles in initiating and steering urban sustainability transitions. From a practice-theory perspective, we present longitudinal participatory action research on the activities of a project management team in a city organization. Our results show how praxes of a project team without hierarchical authoritative power to give orders or delegate change-related activities in the host organization create organization-level outcomes in the city's organization and urban living lab contexts amongst external stakeholders. We contribute to project management studies by increasing the understanding of how short-term project activities foster long-term strategic changes in siloed and departmentalized host organizations while at the same time creating outcomes in the external urban living lab context. This provides novel insights into the evolving intermediary roles of projects that support city organizations in acting as leaders in urban sustainability transitions.

1. Introduction

Projects have become vital in initiating urban sustainability changes and there is a call for project studies focusing on sustainability transitions. Increasingly, cities and other host organizations use projects to become credible actors for sustainability. Sustainability transitions research (Köhler et al., 2019) has developed approaches to analyse the systemic nature of transitions, including the multi-level approach (MLP) and other, more horizontal approaches applied particularly in research on urban sustainability transitions (von Wirth et al., 2019). In project research, there is a rising orientation toward sustainability transitions. Most recently, Winch (2022) envisaged that projects in sustainability transitions will begin a new era in project research, Daniel (2022) developed an integrative framework between MLP and project research, and Bos-de Vos et al. (2022) studied system transformations through context dynamics, albeit not using the transition vocabulary. We contribute to the rising research orientation on projects supporting sustainability transitions with a focus on sustainability projects in city organizations.

Cities are key organizations in urban sustainability transitions. These transitions are multi-actor, multitemporal and multi-regime societal

transformations coordinated by the city (Frantzeskaki et al., 2017). Niches that can instigate transitions in urban areas include urban living labs (ULL), in which sustainability innovations are created and experimented in collaboration between the city, companies, citizens, research institutes and other actors (Jørgensen, 2012; von Wirth, Fuenfschilling, Frantzeskaki, & Coenen, 2019). The transition accelerates when the niche innovations are translated and scaled up within and across cities to increase their transformative capacity. When they challenge the unsustainable regimes with the support from incumbent actors, they can gradually turn urban development into more sustainable pathways (Frantzeskaki et al., 2017). We recognize that sustainability transition in cities requires attention to two parallel directions. First, while cities are expected to be enablers of ULLs and the main leaders of urban sustainability transitions, they are not unitary actors, but rather divided into siloed bureaucratic departments in city administration. Each department tends to defend its own interests, conventional mindset, and budgetary status quo, and if these fragmented interests and practices are not aligned with the promotion of sustainability transitions, the city administration will lack the motivation to support multi-objective ULL projects and their continuities. Second, because experiments and projects are central to ULLs and essential to wider urban policy agendas for

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sustainability, it is questionable whether these short-term activities can support the long-term trajectories required for urban sustainability transitions (Torrens & von Wirth, 2021). While only the second challenge is in the focus of sustainability transitions research, the challenges are independent and create a dual-context problem in which a city organization has both internal and external barriers that hinder the promotion of urban sustainability transition.

In this study, we examine the practices through which projects make their host organizations stronger in the promotion of sustainability transitions. We argue that to increase knowledge about projects in initiating sustainability change requires a context-connecting project that focuses both on the host organization and the external environment where the sustainability transition takes place through stakeholder collaboration. What makes links between contexts important is that sustainability transitions develop incrementally within and between organizations (e.g., Laakso et al., 2021; Nevens et al., 2013). With project-as-practice approach (Blomquist et al., 2010; Clegg et al., 2018), we examine the situated actions of a project team (Golsorkhi et al., 2010; Paroutis et al., 2013) to increase our understanding about the dynamic practices that constitute connections between the contexts. The research question is: How does a sustainability project enact a dual role in promoting a sustainability transition through its host organization? Specifically, we ask the following: (1) What kind of practices do a project team engage in to steer sustainability change in its host organization? and (2) How do the practices create transition-supporting links to a wider context where the host organization promotes sustainability transition together with external stakeholders?

We present a two-year (2019–2021) action research with a transition promoting project in a city organization. In this case, a wider context means that a city organization operates through urban living labs (ULLs) and other platforms for the experimental generation of sustainability transition in collaboration with multiple stakeholders, such as actors from the city government, citizens, businesses, and research organizations (von Wirth et al., 2019). Throughout the paper, we refer to the city organization as hosting the project while some previous research might use terms parent organization or permanent organization. Our study is an interpretive sensemaking case study (Welch et al., 2011) that allows a rich contextual description essential to understanding the phenomenon and theory generation (Ketokivi & Choi, 2014). The action research in a single case study allowed for in-depth exploration of the phenomenon and digging deep into the project team's thoughts and experiences and the ways in which subjects ascribe meaning to their own behaviour (Rashid et al., 2019; Welch et al., 2011).

This study contributes to research on projects in sustainability transition by proposing that a sustainability project makes its host stronger in the promotion of sustainability transitions by playing a dual role as (1) an endogenous renewal facilitator in the host organization (Aarseth et al., 2017; Sabini et al., 2019), and (2) an intermediary in the wider context where the transition takes place in collaboration with external stakeholders (Kivimaa et al., 2019). Thus far, project research has provided two broad but interrelated streams of research at the intersection of project management and sustainability: (1) the sustainability adopted by the project and (2) the sustainability adopted by the host organization due to project activities (Aarseth et al., 2017; Sabini et al., 2019). Our study contributes to both streams by explicating the dual role of the project as the endogenous renewal facilitator and urban sustainability intermediary.

The paper is structured as follows. The next section reviews the literature on projects as urban sustainability intermediaries, projects as endogenous change facilitators, project as practice perspective, and projects in sustainability transitions. Then, the action research process, an in-depth participatory action research over the entire two-year life-course of a project, is presented with an outline of the methods of data collection and analysis, and an evaluation of the validity and reliability of the study. Subsequently, in the results section, five praxes of sustainability transition of the project are elaborated on. The discussion

shows how the project facilitates the endogenous renewal of host organizations and how the long-term trajectories of urban sustainability transitions are embedded in the practices of sustainability project. Finally, the conclusions highlight the theoretical and managerial contributions of this study.

2. Theoretical background

2.1. Practices of intermediation

Cities use projects as facilitators in ULLs and other platforms through which they want to initiate urban sustainability transitions together with stakeholders. In sustainability transitions research, projects in such roles are called niche intermediaries (Kivimaa et al., 2019). As in project research (e.g., Loosemore et al., 2021; Keinz & Marhold, 2021), intermediaries help collaboration between participating actors and facilitate experiments and innovations. Projects operating within and across ULLs aim to link actors (entrants and incumbents), activities, skills, technologies and other resources to create momentum for transition. The role evolution of different intermediaries has been shown to be typical in transitions, but more research is needed (Kivimaa et al., 2019).

The relationship between ULL projects, stakeholders, and the city organization as a project owner is beneficial for developing a common ground between project studies and sustainability transitions research. For this purpose, Daniel (2022, p. 868) presents an idea of relational systems dynamics resulting from "interactions between the interests carried by the various stakeholders at the institutional level, the project owners at the strategic level, and the project individuals and teams at the technical level". In his macro project model of multi-level transitions, projects provide outputs at the micro level, project owners align the outcomes derived from project portfolios and programs at the meso-level, and institutional benefits to stakeholders come at the macro level from new structures and rules that promote socioeconomic values through transition. For our approach, it is important to notice the expectations of stakeholders and the distinct contexts of projects and the city.

The coordinating role of a city organization at the meso-level is essential because sustainability transitions inevitably involve free-riders and conflicting interests and, thus, require a public actor to direct the change (e.g., Frantzeskaki et al., 2018; Hueskes et al., 2017; Kroh & Shultz, 2023; Pineda et al., 2017; von Wirth et al., 2019). To support the transition process, cities have strong assets in strategy making, coalition building, local environmental policy, land use planning and public procurement. However, this arsenal of various capacities depends on the preparedness of the city organization: how the administrative body and city leaders internalize the idea of the sustainability transition as a fundamental change throughout the city organization, which is compartmentalized into administrative sectors. This implies that an endogenous renewal of city administration (Berkhout et al., 2004) is often needed but is poorly studied in sustainability transitions research. Whether ULL projects can extend their intermediary roles to also cover the endogenous renewal of city administration remains an open question. We assume that role evolution requires the evolution of intermediation practices as well. Because the role positions are logically different, we also assume that the need to develop a strategic combination of several praxes increases in cases when the two roles are performed by one and the same project.

2.2. Projects as endogenous renewal facilitators

In the literature on change management, there is a shift of emphasis from viewing organizational change as planned episodic change that focuses on rational, strategic, top-down, and consensus-directed interventions to viewing organizational change as unplanned continuous changes that emphasize experiential, emergent, bottom-up, and pluralistic social movements (Van de Ven, 2021). In project management

literature, this shift manifests itself in the rethinking project management (RPM) stream of research that considers a project as a temporary organization rather than a tool for implementation and is represented by features such as learnability, multiplicity, temporality, complexity, uncertainty, and sociability (Svejvig & Andersen, 2015). Previous studies in this stream of research on project management have shown that change in the host organization occurs through time tactics (Carter, 2019); collective learning (Lenfe et al., 2019; Munck af Rosenschöld, 2019), creating shared meaning (Hornstein, 2015), addressing cultural repertoires (Howard-Grenville et al., 2011), exploration (Tillement et al., 2019), creating space of leadership in relational practices (Lindgren & Packendorff, 2011; Packendorff, Crevani, & Lindgren, 2014), challenging institutional rigidity (Hornstein, 2015), becoming rooted in organizational processes (Tillement et al., 2019), creating autonomy in the host organization and complex stakeholder networks (Martinsuo & Lehtonen, 2009), and producing dynamics of change within the host organization (Sjöblom et al., 2013).

In project management literature on sustainability, the novelty of our study is that it introduces the idea of context-connecting practices through which projects can operate in host organizations both as endogenous renewal facilitators and transition intermediaries at the same time. Although arrays of projects are required to accelerate sustainability transitions (see Daniel, 2022), we suppose that context-connecting practices of a single project can provide specific benefits at least at the initial stage of transition in preparing a host organization for internal changes that are necessarily needed for strengthening its roles in transition. The idea of context-connecting practices shows how praxes in project management can bridge the project, the project owners' internal and external organization, and the institutional level where the transitional progress can be perceived.

2.3. Project-as-practice approach

The practice theory approach focuses on microprocesses to increase our understanding of human behaviour in projects in organizational and societal contexts. It directs attention to what people do in practice (praxis), the tools and methods of work (practices), and the roles and identities of the actors involved (practitioners) (Blomquist et al., 2010; Golsorkhi et al., 2010; Jansson, 2013; Paroutis et al., 2013). The aim is to generate alternative understandings of what goes on in projects, identify challenges and patterns in project management, and broaden our understanding of how practitioners participate and manage complex organizational arrangements (Cicmil, 2006).

In studying projects with a project-as-practice approach, the interest is in staying close to the world of practitioners while seeking to theorize the constitutive process of enactment of reality (Feldman & Orlikowski, 2011; Orlikowski, 2010; Song et al., 2022). The practice perspective allows researchers to plunge into the microprocesses of project management in sustainability transition to obtain vivid details of project management practices in preparing the city organization for urban sustainability transition and to depict contextual and improvisational responses to unfolding management challenges (Clegg et al., 2018). The practice orientation reflects a deliberate focus on the tacit form of practical intelligence of project practitioners acquired through experience and exposure to ambiguous situations (Chia & Rasche, 2010) and the ways in which the project team operates with the 'messiness' of organizational realities that are rich with contingency, complexity, and interdependence (Jerbrant & Gustavsson, 2013; Malucelli et al., 2021; Orlikowski, 2010).

By adapting the project as a practice perspective, this study answers the call for creating linkages across micro-activities within a project and macro-contexts of the project (Blomquist et al., 2010; Clegg et al., 2018; Galdi and Söderlund, 2018; Kouamé & Langley, 2018; Song et al., 2022) in the city organization and urban operating environment in sustainability transition. Using the project-as-practice approach, instead of examining a project as an instrument for implementing strategic

changes, allows for showing how sustainability changes are carried out and unfold in incremental project activities (Clegg et al., 2018; Hornstein, 2015; Mahura & Birollo, 2021; Sergi, Crevani, & Aubry, 2020; Song et al., 2022; Tukiainen & Granqvist, 2016). An analysis of the ways in which micro-level activities constitute and instantiate a macro-level phenomenon with some longer-term effects (Blomquist et al., 2010; Song et al., 2022), allows for examining whether the project-generated practices increase the transformative capacity of the city organization and potentially strengthen the city's role as a leader in urban sustainability transitions. Also, an analysis of the project practitioners' enactment in situated and emergent practices allows accounting for human agency and improvisational interaction with contexts (Song et al., 2022; Martinsuo & Galdi, 2020) in the process of sustainability change management.

2.4. Previous research on projects in sustainability transitions

There are three relevant streams of literature studying projects in sustainability transitions in city organizations, summarized in Table 1. First, research on projects as urban sustainability intermediaries is an established line of research in sustainability transitions research (Daniel, 2022; Frantzeskaki et al., 2018; Hueskes et al., 2017; Kivimaa et al., 2019; Kroh & Shultz, 2023; von Wirth et al., 2019). However, thus far, research has focused on the intermediary roles of projects and less is known about projects in the endogenous renewal of city administration.

Second, projects as endogenous sustainability change facilitators have been conceptualized in the rethinking project management (RPM) stream of research (Svejvig & Andersen, 2015) where empirical studies on project as a temporary organization creating change in the host organization are plentiful (e.g. Hornstein, 2015; Howard-Grenville et al., 2011; Lenfe et al., 2019; Martinsuo & Lehtonen, 2009; Munck af Rosenschöld, 2019; Packendorff et al., 2014; Sjöblom et al., 2013; Tillement et al., 2019). Also, in parallel, reviews at the intersection of sustainability and project management have established two streams of research: sustainability adopted by the project and sustainability adopted by the host organization due to project activities (Aarseth et al., 2017; Sabini et al., 2019). In project management research, there is a

Table 1
A summary of research on projects in sustainability transitions.

Sustainability in projects	Description	Sources
Projects as urban sustainability intermediaries	Projects operating within and across ULLs support the coordinating role of a city organization for <i>meso</i> and macro level transitions.	Daniel (2022), Frantzeskaki et al. (2018), Hueskes et al. (2017), Kivimaa et al. (2019), Kroh & Shultz (2023), Pineda et al. (2017), von Wirth et al. (2019)
Projects as endogenous sustainability change facilitators	Project as a temporary organization create change in the host organization. Sustainability adopted by the project and by the host organization due to project activities.	Carter (2019), Hornstein (2015), Howard-Grenville et al. (2011), Lenfe et al. (2019), Mahura & Birollo (2021), Martinsuo & Lehtonen (2009), Munck af Rosenschöld (2019), Martinsuo & Lehtonen (2009), Packendorff et al. (2014), Sjöblom et al. (2013), Svejvig & Andersen (2015), Tillement et al. (2019) Aarseth et al. (2017), Sabini et al. (2019).
Practice centric studies in public sector sustainability projects	Contractual and relational practices, managerial agency, framing strategies	Daniel (2022), Song et al. (2022), Benítez-Ávila et al. (2019), Benítez-Ávila and Hartmann (2023), Pitkänen et al. (2023), Söderberg & Liff 2023

call for research on context connecting practices in sustainability in project management (Song et al., 2022).

Third, the project-as-practice approach is still emerging in sustainability project management research. There are literature reviews showing the importance of practice and contextual studies in project management (Song et al., 2022) and recent empirical practice centric studies on public organizations have shed light on contractual and relational governing practices in public-private partnerships (Benítez-Ávila et al., 2019), managerial agency in public-private partnerships (Benitez-Avila and Hartmann, 2023; Pitkänen et al., 2023), and policy implementation (Söderberg & Liff, 2023). Practice centric studies on sustainability projects that support transition in urban and city organization contexts are important for linking micro-activities within a project and macro-contexts of the project (Daniel, 2022).

3. Methodology

3.1. Site of the study

The site of our empirical study is a project (Kieppi) focused on an urban circular economy with the aim of creating a partnership model for a sustainable neighbourhood in three Finnish cities: Tampere, Espoo, and Turku. The project was run in the city of Tampere, and it received national funding. The two-year project (2019–2021) invited companies, research organizations, and residents to implement ULL pilots to test the principles of carbon neutrality and circular economy in urban development neighbourhoods.

Two atypical features made Kieppi an information-rich object for a case study (Flyvbjerg, 2006): (1) the project implementation was exceptionally ambitious in its sustainability attitude; and (2) after beginning as a niche intermediary, the project transitioned to support transitions (in agreement with upper management) in both city administration and ULL. This serendipity took place in Tampere, where we conducted our research. The targeted neighbourhood in Tampere was a former industrial area located four kilometres from the city centre (Hiedanranta). The city had a structure plan for building the industrial area into a new residential area with 25,000 inhabitants and 10,000 new jobs, with priority placed on circular and sharing economies. This was the first such initiative in Finland and a groundbreaking and ambitious innovation in the city of Tampere. Following the previous and pre-existing experiments in the Hiedanranta ULL (Jokinen et al., 2023; Särkilahti et al., 2022), the project experimented with three circular-economy pilots focused on urban food production, circularity of urban green structures, and street infrastructures. The partnership model between companies and the city would define the operating methods for developing circular city neighbourhoods in Finland. The development of the partnership model included collaboration between innovative companies and the city with the aim of scaling up the results

at the city level and applying them in other cities in Finland and even internationally after the project.

Fig. 1 illustrates the Kieppi project as positioned in the city organization and in connection with the selected neighbourhood and the development company that oversaw the implementation of the structure plan. The project comprised a project manager and a project coordinator. Their office was in the government quarters in the Tampere city centre, which made it easy for them to work in close cooperation with all city officials in various departments. The action research group comprised the Kieppi project manager and coordinator and three researchers from two universities in Finland. The researchers and Kieppi project team members interacted closely in bi-weekly meetings. Also, occasionally, researchers joined events in the Hiedanranta neighbourhood and seminars organized by the project. The researchers did not have any other contact points in the city administration concerning the Kieppi project. Also, because the action research group did not include any host staff of the city or the Hiedanranta development company, it was possible to hold open discussions and gather experiential knowledge of the experiences of the project team members. The city gave the action research project full support based on a formal agreement.

3.2. The research approach

Our research approach, participatory action research (Cassell & Johnson, 2006), has been employed in research traditions aiming to promote societal change, such as project studies (e.g., Laine et al., 2020; van der Hoorn, 2016) and sustainability transitions research (Wittmayer & Schöpke, 2014). The rich detail obtained through action research provides for understanding of the means and mechanisms through which linkages across micro-activities within a project and macro-contexts of the project occur (Kouamé and Langley, 2018). Action research is based on process-orientated, collaborative research between researchers and practitioners to examine the complex challenges of societal change while facilitating change through practice at the site of the study (Erro-Garcés & Alfaro-Tanco, 2020). The practitioners are co-researchers, bringing day-to-day information, practical experience, and tacit theories-in-use (Argyris & Schön, 1978) to the research process, while the academic researchers are not consultants but, rather, use their scientific competence to help the members of the organization reflect on their ways of thinking and acting (Baskerville, 1999; Cassell & Johnson, 2006; Erro-Garcés & Alfaro-Tanco, 2020; Whitehead & McNiff, 2006).

The action research methodology adopted in this study allowed for investigating the granularity of praxes in project management (Langley, 2010; Rouleau, 2013) while also detecting sustainability changes with different temporalities in the host organization and in ULL designed for experimental sustainability change in a city. Particularly, the combination of action research and the practice perspective made it possible to

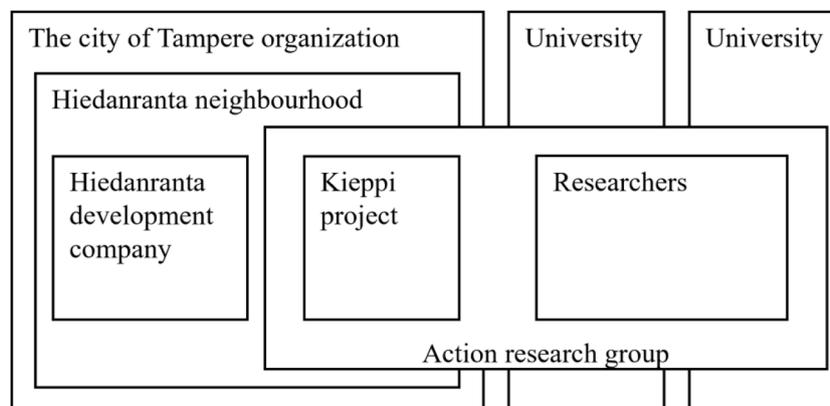


Fig. 1. Research setting.

identify the moments when the shifts between contexts took place and when micro-practices promoting interaction turned into change trajectories in the host organization or in the urban system.

The action research group shared an understanding that the successful implementation of the project targets would require the activation of circular economy thinking in the host city administration and its relevant sectors. This activation was needed because the experimental period (2016–2019) of urban regeneration, during which circular-economy solutions were created and tested in Hiedanranta, reached its endpoint. The shift was realized when Hiedanranta development company, a city-owned limited liability company called Hiedanranta Kehitys Ltd., took the operational lead in the area's development. The company was primarily responsible not for circular-economy solutions but, rather, for land ownership issues, real estate business, and the construction of a new residential area. This background and the ambitious attitude of the Kieppi project team members to develop an urban circular economy in the city led to an action research process in which reflexive project management and change leadership became vital issues.

In the action research group, the role of the university researchers, one with a background in environmental policy and two with a background in management and organization studies, was to provide science-based inspiration for the project and thus support the project team's reflection and create circumstances for a transitional change toward an urban circular economy. For the researchers, the Kieppi project presented a valuable opportunity to test ideas of circular-economy catalysts for theory building, and the project members found catalyst thinking enormously helpful in their work. During the action research process, the idea of catalysing sustainability change was described as applicable in both the practical and scientific promotion of a circular economy. Catalysts were adopted in the language of the action research group, and the Kieppi experts brought new ideas based on their theories-in-use and fresh experiences in the field to the discussion. Reflective learning (McClory et al., 2017) proved to be critical in the action research group meetings and for the Kieppi project team in the field. This paper deals with the action of the Kieppi project itself: the project team members operating within the city organization and leading the change simultaneously in the Hiedanranta ULL and city administration. The university researchers acted as discussion partners with the project team. In that role, the researchers did not participate in the day-to-day activities of the project but instead encouraged reflection, critical evaluation and the exchange of ideas amongst the project team and with the researchers.

3.3. Data collection

Bi-weekly meetings from December 2019 to September 2021 provided the primary data for this paper (approximately 30 meetings, 90 min each). Each meeting was recorded and transcribed. The meetings were held on Fridays, first in the Kieppi office and later in remote meetings, utilizing the Microsoft Teams application due to the COVID-19 pandemic. Each session was roughly divided into two stages, as follows: (1) Kieppi project team members were asked to describe recent occurrences in their work in detail, and this narration often occupied most of the meeting; and (2) a general discussion and co-interpretation. During both stages, the Kieppi project team's strong research orientation and intrinsic capacity for using analytic reasoning, self-reflexivity, and learning produced rich research material.

Regarding the key points of the action research process, the following five iterative steps were applied: diagnosing, action planning, action taking, evaluating, and specifying learning (Baskerville, 1999; Cassell & Johnson, 2006). The diagnosis focused on the operations and culture of the host organization. An action plan was drafted by the Kieppi project at the beginning of the action research process. In the bi-weekly meetings of the action research group, the Kieppi project members reviewed their activities, and the university researchers asked

follow-up questions and presented their own thoughts and ideas about the activities performed. Listing and specifying types of learning were part of what the project team members did in each bi-weekly meeting. The meetings provided a continuous reflective evaluation of the activities of the project and the pressures for change that the project members faced within the city organization and society at large. Specifying learning intensified toward the end of the project. The primary data include deep information and experiential knowledge provided by the Kieppi project team and, consequently, resemble data gathered from in-depth interviews (Given, 2008). The conversation oscillated between the Kieppi project team members sharing accounts of their experiences, the researchers requesting specifics, and the researchers probing for further information about these experiences. The secondary material comprises participatory observation data from events arranged for stakeholders by the project, the media coverage of Hiedanranta, and the public and internal documents pertaining to the promotion of the circular economy in the city administration. These materials were used in contextualizing the project (Clegg et al., 2018) and validating the interpretations by the researchers throughout the course of the project.

3.4. Data analysis

We analysed the data using inductive content analysis to identify patterns, themes, assumptions, and meanings from the conversations (Berg & Lune, 2017). The analysis followed an iterative interpretation process in generating categories (Elo & Kyngäs, 2008). One researcher performed data coding using basic computing tools, and these codings were discussed and revised by all authors in recurrent meetings. The analysis involved the use of investigator triangulation to increase the credibility and validity of the results (Joslin & Müller, 2016). In the analysis, we focused on (1) the ways of working that the Kieppi project team members utilized to initiate change and tackle the tensions between the goals of the host organization and those of the project and (2) the values, attitudes, and prevalent practices of the host organization, and (3) the ways through which the Kieppi project utilized the changes taking place in the city administration and in the ULL to make them reinforce each other for a sustainability change.

In the first round of analysis, we, first, identified three phases in the project. In the first phase, diagnosing and action plan phase (Baskerville, 1999; Cassell & Johnson, 2006), the first six months, the project team searched for background information on the organization, spent time learning about the various actors in both contexts and finding the right people to communicate with. They also created actionable plans that fit the project plan and resonated with the need to find connections between the two organizational contexts. In parallel, the project team moved to the second phase, the action-taking phase (Baskerville, 1999; Cassell & Johnson, 2006) that lasted approximately 12 months and centred on the systematic implementation of the project via two contexts. In the final six months of the project, the project team wrapped up activities, wrote reports, and expanded the results by communication. This was identified as the evaluating and specifying learning phases (Baskerville, 1999; Cassell & Johnson, 2006).

Second, we detected a variety of ways of working that the project team members utilized in the city administration, such as communicating about the project as extensively as possible, meeting various actors regularly, finding the right people, networking, bringing together actors who had not been interacting with one another but whose cooperation was necessary for the change, considering everyday obstacles together, and involving different actors in the activities of the project. The project team members also took actions that deviated from normal practice in the host organization. For example, they asked how others felt about issues related to the change, questioned why things were done in a certain way and why they could not be done differently, brought up new ideas and thoughts, sought to identify boundaries, brought cues into the discussions (e.g., things borrowed from other discussions), broke boundaries, and built trust. This resulted in depicting

the project team’s conceptions of its work and the unfolding phases of the project.

In the second round of analysis, we juxtaposed the ways of working with the values, attitudes, and prevalent practices of the host organization. This allowed identifying the ways in which the project team worked in the context of the host organization and dealt with the contingencies, complexities, and interdependencies within the host organization. This resulted in the detection of the adaptive evolution of five praxes in the activities of the project team (see Aggregate themes in Table 2). We then continued the analysis to depict the outcomes of the five praxes in the city organization at the individual and organizational levels and in the ULL context (Table 3) to show linkages between the praxes in the project and organizational and macro-level outcomes.

3.5. Validity and reliability

Longitudinal engagement in regular bi-weekly meetings provided for rigorous and rich empirical storytelling from the perspective of the project team members. The meetings with the researchers provided a space for project team members to reflect on their actions, their inherent framing of interventions, and alternative ways of approaching challenging situations in interactions with members of the host organization. The researchers gained access to the subjective ways in which the project team members interpreted the host organization, navigated through mindsets and institutionalized practices, created interventions, and engaged in project activities aimed at making a change in the city organization. Thus, the researchers were able to gain an in-depth understanding of the ways in which the non-elite project team members operated as active architects of organizational change and gained access to the ongoing process through which the project team members facilitated the implementation of change (Cassell & Johnson, 2006). Furthermore, collecting empirical material and discussing the initial data-driven interpretations in close collaboration with the participants allowed us to obtain rigorous information from the site, increased the authenticity and trustworthiness of the results, and, thus, made the research more valuable for practitioners (Erro-Garcés & Alfaro-Tanco, 2020).

In addition to bi-weekly meetings, the researchers met regularly amongst themselves to discuss and compare observations, interpret the empirical data, and write up the results of the analysis. The longitudinal research helped verify the results achieved by the project team, which validated our analysis. At the end of the project, the action research group was able to test the preliminary interpretations, which also validated the analysis, and later they commented the manuscript (Altheide et al., 2002). The longitudinal data collection allowed us to see how the relationships between the project team and stakeholders evolved and what the project team faced in relation to those with whom they interacted on a regular basis.

4. Results

4.1. The baseline of five context-connecting praxes

In this section, we describe the five praxes we identified in the working of the project team. The five praxes were distinct ways for the Kieppi project to create sustainability-promoting change that covers both the city organization and the ULL development. The five praxes took place through the entire lifecycle of the Kieppi project iteratively, overlapping, and in parallel with one another. Some were emphasized more in certain phases of the project lifecycle, and some continued throughout the project. Table 2 summarizes the data structure, which we will discuss in detail in the following sections.

4.2. Bringing actors and contexts together

Following its original task as a niche intermediary in the

Table 2
Data structure.

First-order codes	Second-order codes	Aggregate themes
Creating connections to people in different departments within the city and amongst stakeholders (companies and Hiedanranta development organization).	Crossing organizational boundaries and opening new perspectives.	Bringing actors and contexts together
Organizing workshops and meetings to bring people from different organisations to communicate with each other.	Seeking common ground.	
Asking questions openly and engaging in dialogue.		
Learning about issues that matter to the people in different organizations.		
Using experience in project management and personal ambition and commitment of making sustainability change happen.	Finding ways to reframe and overcome obstacles.	Creating persistent tactics
Working with difficulties that the project team faced along the process.		
Ignoring the potential pitfalls. Tenaciously repeating the circular economy goal.	Maintaining focus on the purpose of the project.	
Asking actively for feedback from collaborators.	Collaborative reflecting within the project team.	Reflecting
Sharing and analysing comments received and project team’s experiences on a day-to-day basis.		
Responsively adapting to the feedback from internal and external stakeholders in project management.	Reflecting with the action research group to deepen analysis and identify relevant implications.	
Analysis of the implications of feedback and experiences of the project team on the strategic goals of the project.		
Continuous and close attention to interaction and communication within the city organization and with external stakeholders.	Learning in action.	Re-evaluating and choosing the course of action
Picking up cues and ideas for revising action.		
Enacting the vision and the ambitious goals of the project on a day-to-day interaction.	Flexible decision making.	
Making adaptive changes in the project plans and activities.		
Paying close attention to details in communication and situations of interaction.	Strengthening the weak signals of positive change.	Catalysing positive impact loops
Appreciating the smallest indicators of change.		
Building and making use of a broad social network within the host organization in nurturing positive change.	Spinning virtuous circles.	
Actively communicating about the goals and activities of the project in stakeholder events and meetings.		

Hiedanranta ULL, the project team started to develop three pilots together with external stakeholders (private companies, research institutes, civic associations, etc.) and the Hiedanranta development company to get material for the partnership model. However, it became

obvious that to promote sustainability transition more efficiently, the project team should simultaneously work with people in the city organization (1) to get them to support the pilots in the ULL (or elsewhere if needed) and (2) to encourage them, with the help of previous experience and the results from the ULL, to adopt cross-sectional changes needed to promote sustainability change across the city organization. Thus, the two contexts showed mutual interdependence, and an understanding about this deepened in the project team during the action research process due to the project team's orientation and the frequent discussions in the action research group. The praxes presented below enabled the project team to bring actors and issues together in both contexts and then, by utilizing the resulting openings, to develop context-connecting ideas.

For the ULL targets, the project team engaged in active interaction with companies, Hiedanranta development organization and other local stakeholders. In the city organization, the project team invested time in creating connections and finding people who had the capacity to advance sustainability change. People with such capacities included those in power positions in the organizational hierarchy, people performing different tasks in the back offices of different departments, people with specialist positions, and professionals in various levels of hierarchy who worked in interaction with stakeholders. Also, the project team adopted a purposefully straightforward praxis of talking to people in different departments within the city, companies, consultants and Hiedanranta development organization while being aware that this praxis questioned the established ways of working in the city organization, as shown in the excerpt below.

“We have been quite open. I mean, we have approached different actors really openly, although we know that there is a baggage of history in the organization, and they are used to doing development work with a certain group of people. For example, the technical designers haven't been involved in any development work, even though they are at the core and should be involved in the development work, so that is, like, it also came about a week ago, when I asked whether the technical designers had been asked to join, but they weren't interested. That was the answer.” (Project team member 1)

The excerpt above shows that the project team's invitations to participate in development work were not always welcomed, instead, the project team faced resentment to participate in dialogue. They also encountered past experiences of conflicts between people working in the city organization and in stakeholder organizations that hindered the willingness to join development dialogue. Furthermore, in the process, the team members were criticized for their communication skills being too sharp-tempered and direct. The project team adopted an unassuming approach knowingly for bringing people together and asking questions even when they knew that they might tap on difficulties in interpersonal relations. Despite the criticism, the project team was persistent in seeking to obtain as much information as possible about the networks and relations between the actors. With these praxes, the project team contested the compartmentalized way of working in the city organization with predominant boundaries on communication between departments and across hierarchical levels. The praxis of creating connections made it visible that the established communication patterns created obstacles in implementing sustainability strategies in the city and allowed for individual city officials to avoid personal commitment in pursuing the sustainability targets in their tasks.

Another praxis to cross boundaries and seek common ground was to arrange an extensive number of meetings and workshops not only amongst ULL stakeholders and experiments but also with actors from different departments in the city. The purpose was to engage those who work at the operational level of change in dialogue with each other, have concrete discussions about perceived barriers to change and provide a space to raise matters that need to be settled for moving forward with changes. The project team sought to raise issues in workshops so that

participants were able to talk about their concerns and express fears, obstacles, and possibilities in their own words. The excerpt below elaborates the experience of the project team about the ways in which people from different departments and with varying backgrounds joined discussions with their own professional perspectives with a lack of understanding about other aspects related to the matter. The excerpt shows that the praxis of organizing meetings and workshops allowed the project team to reflect on the ways in which the social fabric of work is integral in the sensemaking of members of the organization about the obstacles and opportunities of sustainability change.

“Engineering people wish that it would be a question of making technical devices and bringing them to markets, and then, everything would be ready, but they don't understand at all that it is a question of how one does the persuading work, how one leads the change, how people communicate with each other, what kind of cooperation they have, what kind of people they know, with whom they agree to or do not agree to cooperate and how they build the cooperation.” (Project team member 2)

There were people who refused to participate or ignored the invitations to the workshops. The project team contemplated the best tactics of approaching and mobilizing people and tactics to create a long-lasting impact in the organization.

“There is, as a matter of fact, quite a lot of background work that we do and we also analyse what went wrong when something did not work out or when people whom we invited did not participate. We ponder what we could have done differently and we ask feedback from our colleagues. And we do a lot of background work to know the people and to know what their interests are. We do not want to force anyone to join if they feel that there is not any value for them to join. Instead, we seek to provide something that would be interesting for the person.” (Project team member 1)

The excerpt shows that the project team used their practical intelligence to shape the interaction amongst internal and external stakeholders in the city organization. This brings forth the appreciation of the motivation and interests of individuals and considering the potential for sustainability change in the siloed and compartmentalized city organization residing in the willingness of individuals to participate in making the change. The project team acquired tacit knowledge about the interests of individuals and the hierarchies and operating principles of the city, companies, consultants and the Hiedanranta development organization. This contributed to identification of change agents in the city organization and amongst the different stakeholder groups and accounting for different interests and framings of sustainability transition.

Asking questions was integral in the project team's communication prior to and in the workshops. Through asking questions, the project team learned and made people learn about issues that matter to the people in different departments and at different levels of hierarchy. The excerpt below illustrates the praxis of asking open what questions and being interested in the viewpoints of people in different organizations.

“So, we have planned a lot of different kinds of meetings where we can bring certain actors together... where we can really go into concrete discussions, that we can bring outlined themes to the actors, that we have noticed that there are these kinds of obstacles, and these things should be developed. So, the workshops we have talked about, they are more organized steps forward ... because now, we have had a lot of meetings with different people and even visited the sites, and at the same time, we have asked, “What do you think?”” (Project team member 1)

With experience and through both positive and negative feedback, the project team learned to tailor the message according to the audience and that helped them in seeking common ground between people from different organizations. With the deep interest in the day-to-day operational issues and an increased understanding about the variety of goals

of people with different professional backgrounds, the project team sought to gain acceptance to change, encourage ownership for change, enhance reflective capacity in the organization to become sensitive about the compartmentalized ways of working, and thereby, create a lasting change of practices in the organization.

The praxes of asking questions and learning about what matter to people operated at the level of individual. Through the praxes described above, the project team gained in-depth understanding about individuals in the siloed and departmentalized organization, and they were able to utilize that understanding in developing new cooperative practices between the ULL and the city organization. The following excerpt describes how, as the project went on, these praxes formed a network of change agents that spanned organizational boundaries and created changes in the ULL and the rest of the city.

“We have formed an internal network of actors now—the kind of actors we have met more often, related to the infrastructure field... and then from the green area planning and, of course, from Sustainable Tampere and, what is it... [Researcher: “It’s the unit of sustainable development”]”. (Project team member 2)

The praxes at the individual level interaction resulted in organizational level changes through linking internal and external contexts. When the infrastructure pilot mentioned in the excerpt proved to be impossible with the Hiedanranta development company, the project team turned to the city organisation and widened its collaborative practices with city experts and some private consultants. This shift between contexts resulted in a significant street construction experiment in the city centre, meaning that the Kieppi project managed to expand the experimental transition actions from ULL to the city scale. The experiment produced the first circular economy principles and criteria for public procurement in the infrastructure sector in Finland.

Another example of shifts between contexts was related to problems with the pilot of urban greening. The following excerpt shows how a fresh idea developed together with a pioneer NGO to utilize a small city-owned plot in Hiedanranta stimulated multiple reactions and revealed the dynamics between two contexts.

“It is confusing and shocking how many units and top-level people from the city organization were needed to discuss the possibility for implementing the pilot on this specific site despite its designation as a park in the general plan and the green light we had got from the city’s landscape experts and green planners. It is interesting how the pilot [as a very small thing in the machinery of the city] suddenly kept several top-level city officers very busy...” (Project team member 2)

The excerpt shows how decisive the administrative boundaries in the city organization are and why alignments over sectoral silos are necessarily needed for sustainability transitions. All people participating this burdensome problem-solving were finally very satisfied with the implementation of this unique idea of green innovation (circulation of local seeds of historical plants to link the forthcoming residential area with its industrial background). The example demonstrates how the practices generated by the project team pushed a tangible sustainability idea to move back and forth between the two contexts, increased sensitivity to change and improved interaction amongst people, and thereby, promoted the city-level transition.

4.3. Creating persistent tactics

The project team used their experience in project management and built on their personal commitment to sustainability change in creating ambitious goals that exceeded the formal pre-set goals to the project. To promote the ULL pilots, the project team followed the formal project strategy but, simultaneously, implemented an informal project strategy that was constantly adapted to the emerging situations and persistently focused on implementing long-lasting change-making practices in the

city organization. The excerpt below shows that while the city strategies and pre-set goals of the project provided guidelines for implementation of circular economy solutions, the project team’s ambition played an important role in reframing the strategic goals to the praxis of the project.

“It wasn’t a merit of the formal strategies that we were able to take things forward this big, but it was our practical workings... the formal strategies gave the opportunity to do pilots because then you fulfilled the formal strategy... but our ambition grew as we worked.” (Project team member 1)

The constellation of the formal and self-imposed project strategies helped the project team to develop context-connecting practices. At the organizational level, this resulted in increased interaction and networked connections between the city organization and the ULL, thereby amplifying the drive toward urban sustainability transition with a focus on circular economy. Although the project team considered that things happened intuitively and sometimes with good luck, they also considered that their personal commitment to advance sustainability was important.

The project team worked with difficulties they encountered in their work. They were denied access to development projects in the ULL and sometimes they were dismissed by members of the city organization. The project team was taken back by these setbacks but in discussions with each other reframed the difficulties as possibilities to get engaged with issues that truly matter in the sustainability transition of the organization.

In ignoring the potential pitfalls, the project team made use of their own positions as newcomers and temporary employees in a project to ask unassuming and even silly questions. In discussions, when they developed their ideas for the partnership model, they often openly questioned the city’s conventional principles in public procurement and market dialogue with business organizations. Although these issues were politically sensitive, the project team succeeded to create a partnership model with a new kind of sustainability orientation together with relevant parties and the consultants they hired for the task, first to be tested in Hiedanranta and then improved for a wider use in cities. A nuance in this ambitious task was that they tried public procurement also by themselves to get enterprises for the ULL pilot of urban food production. Again, they wanted to test the limits of conventional practices, as can be seen in the next excerpt.

“Making purchases in the private and third sectors is pretty darn easy. Compared to that, here, even with these small, minimal experiments of a couple of thousand, you have to push for weeks. I understand now why they try to do procurements the way it’s always been done. That idea - let’s not shake the boat, because as soon as the boat starts to shake, the lawyers of the whole world will get on their necks. [The person] tries to help, to do her job and she does her job very well. But they’re pretty much discouraging...whatever that word is in Finnish, that’s how they are...” (Project team member 1)

Repetition of circular economy goals was particularly needed when the project team tried to find a suitable case for the infrastructure pilot to test and develop the principles of circular economy in real circumstances. They were disappointed several times, but as expressed in the excerpt below, they still repeated their message that the street project should be noticeable enough to have impact on sustainability transition.

“Throughout the beginning of the year, we met with various actors [consultant companies] who have been in Hiedanranta and in the city, or their geoengineers who have been... promoting the infrastructure in the city in accordance with the circular economy. And then there were about 15 people in a meeting trying to find what we could get into as a project, some practical object, what would be done during this project. And that... and that was really difficult, when

construction cycles are what they are, so of course, this year's targets were locked, of course." (Project team member 2)

4.4. Reflecting

Reflecting was an ongoing praxis for the project team over the course of the entire project. The project team engaged in continuous reflection with one another and with the action research group. Reflecting involved being responsive to feedback from collaborators. For example, the project team received direct feedback indicating that it was not always good to be as talkative and direct as they were in their communication. The excerpt below demonstrates the reflection that took place.

"After the meeting, I asked [person's name] 'How do you think it went?', and he was like, well it was okay, but then, he started to ponder that actually [person's name] was somewhat tame and, maybe, we didn't get the commitment to everything. And after we talked a while, [person's name] gave me personal feedback that it would be good to remember how to speak with different people—that you shouldn't always be so talkative and forward but more 'engineer like.' So, afterwards, we started to ponder with [project team member] how important it actually is, how and in what form the message is conveyed to people so that they can receive it: what [is] the responsibility of the messenger, and what is the responsibility of the listener? That they would be as open as possible and wouldn't let, for example, their own personal preferences for certain people either block or further the message." (Project team member 1)

With reflecting, the project team sought to ensure the impact of their activities. In the excerpt below, the project team explained reflecting praxes that were different from those of other project teams. Both the excerpts above and below explicate the importance of joint analyses about what the project team members have experienced, why something did not work out as planned together, how they work together as a team and how they could do things differently.

"This is not a typical way of cooperating...normally, project workers do their work in their own "foxholes" and meet each other for a coffee and throw a couple of thoughts, but, of course, as we sit next to each other, we have worked very closely together...we have had a lot of reflection together that works as the basis for planning the advocacy work. Although the meetings have been quite reactive, it is still based on those issues that we have observed and analysed together with [project team member's name]." (Project team member 2)

The bi-weekly meetings of the action research group created a recurring forum for reflection for the project team. The project team considered cooperation with the research team significant because it supported the project team in analysing their work and the outcomes. The excerpt below shows that reflecting was a praxis of collecting information, increasing understanding about the operations of the city organization and the ULL, and refining the course of action.

"We analyse a lot with [project team members]. If we cannot make something happen or get someone to come [to, e.g., meetings], we always try to think why they didn't come and what we could have done differently." (Project team member 1)

Reflecting formed a basis on which the project team could continuously re-evaluate their actions and change course when needed. Reflecting within the action research group helped the project team to deepen analysis and identify relevant implications. This included

evaluating and responsively adapting to the feedback from internal and external stakeholders in project management. It also included analysis of the implications of feedback and experiences of the project team on the strategic goals of the project. In all, continuous reflection both mutually and in the action research group helped the project team to navigate contingent situations and find new routes when seeking actionable connections between the ULL and the city organization. As a result, the project gained an improved understanding of the strategic significance of Hiedanranta in the city's environmental policy and reasoned that it is only partly succeeded in its key function, as described below.

"It seems, like we often hear in the city office, that Hiedanranta has become a kind of wishing well, a separate place into which all things [sustainability initiatives] are fed, but it has no connection with other functions in the city. The transformative actions there, turning the activities sustainable, have not moved into structures of city administration in any way. [...] Hiedanranta is only one place, and it is a fact that increasing sustainability only in one place, even if it achieved the global forefront as was imagined in the vision, does not make the city sustainable in any way." (Project team member 2)

Consequently, the project team became more convinced that they should be active in both contexts. They concluded that (a) they should explicitly justify that the ULL pilots fulfil the city's key strategies in order to enter into mutual interaction with the city's administrative sectors and advance change amongst them; (b) they should be skilful in inter-departmental consultation when they are asked to express their expert view on environmental policy plans in the city; and (c) they should create collaborative operating models that safeguard the progress of sustainability targets in Hiedanranta and help translate the results not only into urban development in Tampere and elsewhere but also into city administration to support its transformative turn. These responses demonstrate how the project team's reflection gradually grew from praxes to a large-scale reflective analysis of the two-context problem and identification of the potential leverage points in the urban system to enhance sustainability transition.

4.5. Re-evaluating and choosing the course of action

Re-evaluating and choosing the course of action were closely intertwined with the praxis of reflection. Re-evaluation comprised learning in action and involved flexible decision making. Learning in action involved picking up cues and ideas for revising plans and adopting new ways of operating. For example, when the project team was planning a market dialogue between the city organization and local companies, they suddenly realized that using the familiar concept of market dialogue might result in resorting to familiar praxes in the host organization. Because the intention was to change the prevalent praxes in the city organization and enhance co-development, the project team decided to rename the concept. The excerpt below shows how the project team's praxes of evaluating and changing the course was sometimes initiated through sudden inspiration:

"I'm not sure at what point it came up, as we talked about the open and really early-stage market dialogue, and the concept that came up... (Project team member 1)

"It was a Skype discussion where you suddenly came up that, hey, its name should be, of course, a partnership dialogue..." (Project team member 2)

“And it is similar to market dialogue, but the term is still different. It makes you think [about] what the difference is between the two.” (Project team member 1)

“And what is different about them is creating the foundations for co-development and that the city organization indicates their plans and seeks partnerships and cooperation with the private sector openly to work out the challenges... Because we have thought about it for a long time, that it would be good to have our own term, as the market dialogue is understood very specifically at the city... in the traditional market dialogue, there is no sign of co-development. And, then, we have noticed that, when we talk about market dialogue, people do not know what we mean by it unless we explain thoroughly. So, we noted quite early on that it would be good to launch a new term... in this case, it is sensible that, when we suggest new operating methods, then we also suggest a new name for them.” (Project team member 2).

By renaming the concept of market dialogue as partnership dialogue, the project team was able to attach new meanings to the old, familiar concept. The practice-originated conceptual innovation of partnership dialogue, which they later operationalized, together with two hired consulting companies, to become a co-development model between public and private actors, was an important achievement of the Kieppi project. By germinating it during the ULL activities and then developing further on the scale of the city organization, the project team created new functional links between the two contexts.

The project team re-evaluated their actions also during action research group meetings. For example, in one of the meetings, one of the researchers asked how people at green area planning in the city organization had reacted to a meeting that they had with one of the green area pilot projects. With that question, the project team noticed that the people in green area planning were not present at that meeting even though it would have been important. After a brief discussion, the project team developed a solution: they would organize a workshop in which the people from green area planning and the pilot project could consider together what should be changed so that the operating mode that they were currently piloting would become an established practice within the city organization. There were several other similar occasions during the action research process when the project team re-evaluated their actions based on discussions with the researchers and developed new solutions.

4.6. Catalysing positive impact loops

The change that the project team noticed began with weak signals and minor deviations in communication, such as when people in the city organization began to repeat the statements that the project team had said. The excerpts below express paying close attention to details in communication and situations of interaction when people came on board and began thinking and acting differently from before. The project team was able to help people understand how the organization operated and what could be done differently.

“I’m sure that happens more, too. There are certain kinds of ‘Aha’ moments, like in that infrastructure case, [showing] that it’s really positive, that there were a lot of quiet moments when people kind of started to realize that things can be done [differently].” (Project team member 1)

“Yes, and even someone saying that, maybe, we should invite new actors to the co-development is big as hell.” (Project team member 2)

As the project progressed, the project team was able to find more people who stood by the project team and took on a circular economy as part of their everyday work. The project team received feedback regarding the impact of their work. After the project team decided to replace the term ‘market dialogue’ with ‘partnership dialogue,’ they

learned that one of the top-level persons responsible for the city’s sustainability targets had begun using the term, as they describe in the following excerpt:

“You have to find big meanings from small things because... when we discussed about our idea the first time with [person’s name], what would be a very early-stage coherent market dialogue that we would start with the companies. Now, [person’s name] said that [person’s name] had talked about it on two separate occasions, so he has started to [use] that. So, if you think [about it], you have to realize that, even though we don’t get the recognition, it most certainly is not a coincidence.” (Project team member 2)

Before the project began, one of the project team members carried out a study on the potentiality of a circular economy in the city, but at that time, the term ‘circular economy’ was not being systematically used or recognized in the city. Three months after the project ended, however, the city government of Tampere committed to making a strategic roadmap, an implementation plan for the circular economy in the city. This commitment was largely a result of the Kieppi project team actively communicating about the goals and activities of circular economy in city administration and in stakeholder events and meetings.

As an achievement, it clearly exceeded the dual context through which the project co-generated ideas and accepted them in collaboration with internal and external stakeholders. The plan was published next year as a landmark for a circular-economy transition in the city. The excerpt below describes the processual nature of catalysing a positive impact loop. Because the project team was able to form a large network of professionals and had access to feedback from them, they gained firsthand information about the unfolding changes in the narratives within the city organization. This again confirmed to the project team that they were going in the right direction.

“It is good to remember and to also remind ourselves that we have done extremely wide-ranging influencing work at the city organization, specifically on this circular-economy theme. But, of course, the self-critic in me remarks that we could have done more [laughs]. But this is also a learning process for us, but true.” (Project team member 1)

The project team’s work became recognized also outside the city of Tampere. The project manager engaged in influencing work for a wide audience, and the project began to generate interest in other cities nationwide. In the excerpts below, the project team members described two instances of this wider positive impact loop:

“This is interesting. We’ve said this before, but it’s good to say again, as it raises the effectiveness. Yesterday, it happened twice that we heard from two different sources—and we had nothing to do with this—it came from [a professional] of Turku city or the Turku regional development company’s representative that they had talked at an event about the procurement criteria of Tampere, that they are waiting in Turku, they have an eye on Tampere. And then again, yesterday, our consultant had been at an event related to the Uuma3 program [National program to promote the use of recovered materials in groundworks], which is a big development program that has been effective for about 15 years already... at some event, they had also talked about the procurement criteria of Tampere and Kieppi. So, during the autumn, our work has been mentioned so many times that eyes are on us, that it’s interesting. So, we have done or at least said something right [laughs]. I don’t know how high the expectations are, but we have achieved something good.” (Project team member 1)

Catalysing positive impact loops was not straightforward, and there were setbacks, but once this process gained momentum, it progressed in a wave-like manner. Other projects that had been running simultaneously in Tampere and other cities strengthened this effect. The positive feedback gave the project team confidence that they were doing

things right and encouraged them to continue developing their praxes.

4.7. Summary: praxes for sustainability transitions in the dual context

The five praxes of the project produced organization-level outcomes in the city organization and the ULL context (Table 3). The table shows how the short-term activity of the project at the micro level fosters long-term trajectories of sustainability transition on the organizational level within the city administration and in the ULL activities run by the city.

First, bringing actors and contexts together brought about changes in the behaviour and opinions of people and prevalent ways of operating in the host organization. While there were favourable links (persons and resources) between the contexts because of the recognized importance of advancing circular-economy solutions in both contexts, there was also a jungle of barriers between them. Weakening these barriers was important for obtaining resources, political will, and project continuities for the promotion of the ULL transition in the short and medium terms. Second, creating persistent tactics, which was driven by the project team’s ambition to achieve both the official goals of the project and a long-lasting change in the city organization, was productive in initiating changes in the operating mode of the city and obtaining resources for the transition.

Table 3
The outcomes and deliveries of praxes in two contexts for sustainability transition.

Praxes of the project	Outcomes in city organization	Outcomes in the ULL context
Bringing actors and contexts together	<i>Individual level:</i> Changes in the behaviour and opinions of people. <i>Organizational level:</i> Changes in the prevalent ways of operating in the host organization.	Weakening barriers for sustainability transition. Establishing political will.
Creating persistent tactics	<i>Individual level:</i> Increased interaction and networks amongst people. <i>Organizational level:</i> Changes in the operating mode of the city.	Obtaining resources for sustainability transition.
Reflecting	<i>Individual level:</i> Reinforced communication and feedback amongst people. <i>Organizational level:</i> Continuous creation of alternative pathways for change.	Trajectory of multiple impulses conducted repeatedly in strategic leverage points.
Re-evaluating and choosing the course of action	<i>Individual level:</i> New meanings and slight alterations to familiar concepts. <i>Organizational level:</i> Paving way to establishing project pilots in the host organization.	Building agility to utilize a variety of intermediaries as they emerge.
Catalysing positive impact loops	<i>Individual level:</i> Changes in terminology-in-use in the host organization. <i>Organizational level:</i> Amplification of implementation of sustainability change projects.	Initiating deep institutional change by focusing on rooted praxes, mindsets, and social relationships in the city organization.
Deliveries utilizing and exceeding the dual-context problem		
Developing partnership dialogue model for inter-city circulation		
Creating procurement principles for urban infrastructures in Finland		
Generating compelling justification for the city’s circular economy strategy		

Third, reflecting sensitized the host organization to the continuous creation of alternative pathways for change and required a trajectory of multiple impulses conducted repeatedly in strategic leverage points to initiate sustainability changes. Fourth, re-evaluating and choosing the course of action allowed for creating new meanings and slight alterations to familiar concepts in the host organization. This also paved the way for establishing project pilots in the host organization and agility to utilize a variety of intermediaries as they emerge. Fifth, catalysing positive impact loops established changes in terminology-in-use in the host organization and amplified the sustainability transition. Each of the five context-connecting praxes highlights the fact that it is quite different to promote collaborative technical pilots in an isolated space of ULL safety as compared to intermediating a transitional change across a siloed city administration (i.e., initiating an institutional change focusing on rooted praxes, mindsets, and social relationships).

In the face of dual contextual contradictions, the praxes of the project were decisive for several reasons: (1) they created favourable conditions for change, (2) allowed utilizing the dual context systematically and in reactive ways, (3) developed recursively and helped the project team to dig deeply into the city administration and, gradually, gain additional support from national networks supporting circular economy, and (4) allowed for role evolution on the part of the project in its effort to intermediate the urban sustainability transition on two organizational-level contexts and find reconciliating connections between them. Finally, the project’s praxes resulted in a growing trajectory of change, which exceeded both contexts when the major deliveries (Table 3) came into focus and gained wider recognition in the city and nationwide. These transition-promoting deliveries, which crucially developed through context-connecting practices, include the generation of the partnership dialogue model, the procurement principles for the infrastructure sector, and powerful advocacy for the city’s strategic decision on the circular economy implementation plan.

5. Discussion

The results of our analysis uncovered five praxes through which the studied project was able to operate on a wide front for urban sustainability transition together with its host, the city organization (Fig. 2). It was crucial that the cycle of praxes enabled the project to manage the two contexts at the same time: to accelerate stakeholder collaboration in ULL and to increase the preparedness of city administration to take next steps in the promotion of urban sustainability transition. In terms of transition dynamics, the former context supported niche innovations and the latter cross-sectoral collaboration. Increasing the interaction and activating relationships were required to stimulate transition, and simultaneously, create pressure for change in the established urban regimes and unsustainable practices. Thus, our answer to the main research question is that a project that generates context-connecting practices through a cycle of praxes strengthens its host organization’s capacity to act for sustainability transition. This finding brings new knowledge particularly to the following themes in project-related sustainability research.

First, as a contribution to research on projects as urban sustainability intermediators, our study shows that a context-connecting project enhances the capabilities of the city organization to become a leader in the development of the circular economy, and thereby, foster long-term sustainability transition in society. Previous research has shown that because transitions are long-term, dynamic, and multi-dimensional processes, various intermediaries are frequently needed, and thereby, in the ecology of intermediaries, new ones emerge, some of them shift, and some are not aware of their intermediary roles (Kivimaa et al., 2019). In our study, the project gained a parallel benefit by extending its original niche intermediation to internal processual facilitation within the host organization, which, in turn, created possibilities for the project to increase the city organization’s capacity to lead urban sustainability transitions in the long term. Furthermore, our study shows that in the

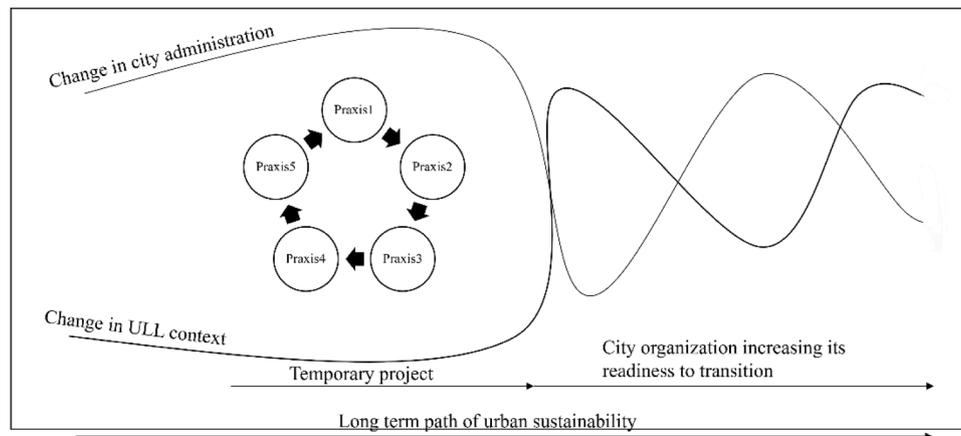


Fig. 2. The evolving intermediary roles of a sustainability project in two different contexts.

background, there are burdens, such as institutional inertia and time lags, that make synchronization between the two contexts challenging.

Second, as a contribution to research on project as endogenous change facilitators the findings of this study show that the context-connecting practices of the project with the host organization do not neatly fit to the division presented in the previous research that separates between projects adopting sustainability and projects making their hosts sustainable (Aarseth et al., 2017; Sabini et al., 2019). Instead, the findings of this study show that projects promoting sustainability are inherently sustainable because they are originally designed to promote sustainability, and further, they can evolve to become more sustainable through an ambitious project team, context-connecting praxes and role evolution. Through such development, projects increase their host's sustainability. Consequently, it becomes relevant to ask, how can a project manage internal and external developments of the host organization in ways that support sustainability transition?

In addition, the results of this study show that endogenous sustainability renewal is emergent in the praxes of a project that a) create favourable conditions for the members of the organization to engage in sustainability change within the organization, b) challenge the host organization's internal and external boundaries in practices and processes related to innovative sustainability solutions (e.g., circular economy solutions), and c) create a continuity that entails a gradual change to support long term commitment to sustainability transition in all departments and hierarchical levels of the organization and in interaction with external stakeholders. The findings of this study show that endogenous sustainability renewal is effective in transforming the status quo of a host organization, and thus, enhances the capabilities of the city organization as a leader in urban sustainability transition. Thus, the findings increase our understanding of the endogenous renewal of host organizations in sustainability transition (Lenfe et al., 2019; Munck af Rosenschöld, 2019; Sjöblom et al., 2013).

Third, as a contribution to practice centric studies in public sector sustainability projects the findings of this study show that context-connecting praxes are the primary source of transition trajectories that take shape in sustainability transition processes. Our results mostly support the argument by Daniel (2022) that the nexus between project studies and sustainability transitions research can be found by examining the levels of project team, project owner (city as a strategic leader), and stakeholders representing the institutional change. However, while he presents that projects operate on a technical level, our research findings demonstrate that projects acting through context-connecting practices can become change-makers on all three levels in transition processes. As seen in Table 3, the project generated strategic change by connecting two contexts and provided deliverables (based on co-development between stakeholders, project and the city) that expand the institutional change.

6. Conclusions

Urban sustainability transitions that involve changes both in city organizations and the urban context represent a topical yet sparsely researched subject. By using project-as-practice approach and based on in-depth longitudinal action research to study a sustainability transition project in a city organization this research elucidates the ways in which a project enacts a dual role as both a niche intermediary in the urban context and an endogenous change facilitator within the city organization. Thus, the temporary short-term project increases the city organization's transformative capacity to strengthen the city's role as a leader in urban sustainability transitions in the long term. We show that the project practitioners' enactment of sustainability transition in situated and emergent practices created favourable conditions for people to engage in sustainability change, challenged organizational boundaries and created commitment to sustainability transition across departments. This is evidence that the praxes in a sustainability project constitute and instantiate a macro-level sustainability change in the internal organizational context and the external ULL context.

The results of this paper have theoretical implications for the ongoing discussion of the roles of projects in sustainability transitions (Daniel, 2022; Winch, 2022; see also Winch et al., 2023). Daniel (2022) and Winch (2022) emphasize that projects with their teams and individuals are necessary on the level of technical execution, whereas host organizations promote the transition on the meso-level through projects, portfolios, and programs. In terms of key aspects of project management (Pich et al., 2002), this division is based on instructionism (project using detailed, directive project planning and risk management) and selectionism (host organization putting several projects to work and then selecting the most promising results).

Our results, that can be called a *context-connecting model for projecting sustainability transitions*, complement this basic idea in the following ways. First, the context-connecting model emphasizes the host organization's capacity to act for transition and provides project-based tools for increasing and maintaining this capacity during long-term paths toward transition. This is particularly important for cities as host organizations because when leading the change, they face serious uncertainties and simultaneously have other important roles in urban sustainability transitions (Frantzeskaki et al., 2017). Second, the context-connecting model increases reflexivity and flexibility in projecting sustainability transitions. The model brings in learning, which is the missing third key aspect of project management (Pich et al., 2002). The cycle of praxes develops and evolves through constant learning, and this enables the project to adjust its role of helping the host organization to adapt to changes and act for sustainability transition. Finally, while projects have proven important in sheltered niche development, such as ULL initiations (e.g. Nevens et al., 2013; von Wirth et al., 2019), other

roles of projects have seldom been recognized in sustainability transitions research (Köhler et al., 2019; Winch et al., 2023). The context-connecting model indicates that role evolution (Kivimaa et al., 2019) can make projects important intermediaries in various leverage points through which systemic changes can take place during transition.

The managerial implications of our study comprise insights into project management praxes. First, the results of this study encourage practitioners to think reflexively about their own praxes, and thus, offer clear potential for generative learning and mobilizing others to replicate the approach (Langley, 2010; Rouleau, 2013). Practitioners will be able to learn from the activities identified in this study in designing, planning, steering, and evaluating projects for sustainability change in urban settings (Song et al., 2022). Second, our participatory action research highlights the benefits of practitioner–researcher dialogue in creating a space for project team members to reflect on their actions, become aware of their inherent framing of interventions, and explore alternative ways of approaching challenging situations in interactions with members of the host organization and external stakeholders.

This study is not without limitations. First, the in-depth qualitative data presented in the results section draws primarily from discussions between the project team and researchers and does not include interviews with members of the host organization or stakeholders. This limitation was mitigated by longitudinal data collection, which created a broad overview of the internal and external stakeholders involved in the project's activities and discussions. In addition, to provide further confidence in the results, the primary data were complemented with secondary data, comprising researcher participation in seminars organized by the project. Furthermore, we had contact points in the city and with stakeholders through other research projects, and we followed the local public press's reporting on issues related to the project's activities. This allowed us to gain a broad-based understanding of the multiple dynamics involved in the local setting. Second, gaining an in-depth understanding of the micro-activities in the project requires deep trust between the project team members and the researchers who did not have prior connections. To support trust building, the project team members were encouraged to talk openly, and confidentiality was emphasized. The researchers focused on listening, asking specifying questions, and engaging in discussions as empathetic collaborators. This allowed for a rich understanding of the nuances involved in the human interactions of the project's day-to-day activities.

The findings provide for further research on sustainability transitions within organizations and on urban sustainability transitions. This is because the praxes of the project can be linked to the intermediary roles of projects, role evolution, and projects' potential to promote transitional change within host organizations. The practice-theory approach and the role of projects are understudied in sustainability transitions research (Laakso et al., 2021). Our research demonstrates that the project-as-practice approach is useful in studying projects as a form of organizing through which multi-actor interconnections, synergies, and collaborative innovation between various sectors involved in sustainability transition are developed (Frantzeskaki et al., 2018; Torfing, 2019). Future studies involving the intersection of project management research and sustainability transitions research could incorporate stakeholder perspectives with project-as-practice approach to deepen understanding of the dynamics of stakeholder interactions in connection to the dual role of a sustainability project.

Declaration of Competing Interest

We have no known conflict of interest to disclose.

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