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The co-creation of value by public and private actors in the front end of urban development projects

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ABSTRACT

This study focuses on the co-creation of value in the front end of urban development projects (UDPs) established by coalitions of public and private actors to develop specific urban premises or areas. Creating value in UDPs calls for collaboration between municipal actors and private companies, specifically in the front end phase, during which major design decisions are made. This qualitative case study builds on data collected through 27 semi-structured interviews in a middle-sized city in Finland. Our data analysis resulted in the categorisation of four value co-creation processes involving municipal actors and private companies, namely, zoning, exploring, procuring and negotiating. The study's results offer insights into how value co-creation can be facilitated in UDPs. This study contributes to recent value-creation literature by providing a novel understanding of each value co-creation process, its characteristics and its corresponding co-created values.

1. Introduction

The development of urban areas through projects, such as the construction of shopping malls and apartment buildings (Gualini & Majoor, 2007; Swyngedouw et al., 2002), requires collaboration between the project stakeholders throughout the project. This need is especially high during the project's front end (Edkins et al., 2013), which is the project phase that affords the highest potential for value creation. Urban development projects (UDPs) involve multiple stakeholders, and collaboration between the municipal actors and private companies is particularly important as they both act as vital stakeholders steering the project (Gardesse, 2015; Lu et al., 2021; Verhage, 2003). Such collaboration provides opportunities for the co-creation of value (Austin & Seitanidi, 2012; Chih et al., 2019; Prahalad & Ramaswamy, 2004), that occurs when this collaboration process creates value outcomes, such as enhanced project plans. Several studies have examined value co-creation (Aarikka-Stenroos & Jaakkola, 2012; Chih et al., 2019; Fuentes et al., 2019; Smyth et al., 2018), and although some research has focused on value co-creation by public- and private-sector actors (Fuentes et al., 2019; Liu et al., 2019; Mills & Razmdoost, 2016; Smyth et al., 2018), it requires more attention in the front end of urban development (Candel et al., 2021).

UDPs can be public-led, private-led or co-led by public- and private-

sector actors (Heurkens & Hobma, 2014; Swyngedouw et al., 2002; Zhang et al., 2015). However, regardless of the project implementation model, the project's front end represents a significant opportunity for value co-creation (Morris, 2013). To use a simplified example, the co-creation of value in a project's front end could entail the following process. The municipality and a private company collaboratively designate a zoning plan in a certain area to enable the construction of a planned project. If they successfully formulate a proper zoning plan, value is co-created (e.g. the project can proceed smoothly and with less costs compared to a situation without any input from the private company), and both parties benefit. If they do not successfully formulate such a plan, no value is co-created. These kinds of co-creation processes are important, and their success can determine the fate of a project (Artto et al., 2001; Samset and Volden, 2016). Therefore, value co-creation in a project's front end requires more attention (Liu et al., 2019; Matinheikki et al., 2016; Zerjav et al., 2021). In addition, in the context of urban development, many well-known value co-creation processes involving the municipality and private companies have yet to be examined within this research domain. Such processes could include procurement, project zoning (Candel et al., 2021) and negotiations (Chi et al., 2022; Fuentes et al., 2019) between the company and the municipality. Furthermore, project-management research that connects front-end processes to the co-creation of value is scarce (Zerjav

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et al., 2021).

The aim of this study is to provide a novel understanding of the co-creation of value in UDPs by public and private actors. The following research question guides this study:

RQ: How do municipal actors and private companies co-create value in the front end phase of an urban development project?

To address our research question, we conducted a case study on three UDPs in a mid-sized city in Finland. The study provides novel insights into value co-creation between municipal actors and private companies by: 1) presenting a comprehensive view of the value co-creation processes occurring in the front end of UDPs, and 2) offering insights into how value co-creation can be better facilitated and enhanced within UDPs. Additionally, our research builds on and contributes to existing literature on value co-creation in projects (Artto et al., 2016; Breese, 2012; Candel et al., 2021; Chih et al., 2019; Liu et al., 2019) and the project front end (Edkins et al., 2013; Larsen et al., 2021; Smyth et al., 2018).

This article proceeds as follows. First, we review the existing literature on value and its co-creation in projects, the project front end, and value co-creation in the front end of UDPs. Subsequently, we introduce our empirical case setting and discuss our methodological choices and data collection. We then present and discuss our results in light of previous research. The conclusion discusses the study's limitations and its implications for future research.

2. Literature review

2.1. Value in projects

Many studies have examined how projects create value (Fuentes et al., 2019; Laursen & Svejvig, 2016; Smyth et al., 2018), but to date, there is no universally accepted definition of value or value creation (Chih et al., 2019). Each project is unique, so the definition of value has to be project specific, and the nature of the project and its goals determine whether value could be defined as financial, organisational or social (Green & Sergeeva, 2019; Martinsuo & Killen, 2014).

However, while a common definition does not exist, we view the concept of project value through four underlying principles. First, value is multidimensional (Chih et al., 2019), that is, different dimensions of values (e.g. financial or technical values) can be found across projects or within a single project (Chih & Zwikael, 2015; Martinsuo & Killen, 2014). Second, given that project stakeholders perceive value subjectively, their experience thereof is context-dependant (Laursen & Svejvig, 2016). Each stakeholder has their own perception of what value is, as well as idiosyncratic expectations regarding the value the project will create (Martinsuo, 2020). Therefore, understanding the differing viewpoints of stakeholders is necessary (Ang et al., 2016). Third, project value may vary depending on the level at which it is observed, that is, it is different at the firm level and at the business network level (Martinsuo, 2019). Fourth, the temporal definition of value can be assessed from either a short- or long-term perspective (Ahola et al., 2008; Pargar et al., 2019), and value that is created at a certain point in time can be realised instantly or in future phases of the project (Fuentes et al., 2019). Thus, a life-cycle view of the project has become paramount (MacDonald et al., 2013; Pargar et al., 2019).

Project value is measured in both monetary and nonmonetary constituents. The nonmonetary constituents of project value include social and environmental benefits, such as learning, reputation, trust between stakeholders and productive relationships in the project organisation (Shenhar et al., 2001), whereas the monetary constituents include revenues, costs and profits. In view of the assumptions outlined above, value can be measured as a trade-off between these constituents: the benefits gained from and the sacrifices made in a project (Ahola et al., 2008). In practice, the benefits may include cost reductions, business

growth and fast and efficient delivery of the project (Berman, 2007), whereas the sacrifices may include the project's price (paid by the project owner), delayed deliveries, repairs, maintenance costs (Ravald & Grönroos, 1996) and conflicts amongst stakeholders (Lapierre, 2000). However, in practice, these variables are often difficult to objectively measure and identify (Möller & Törönen, 2003). In this study, our explicit focus is on private and public sector actors, as they are the main actors involved in the value co-creation process. To be more precise, the realised value is viewed from the perspective of the municipality and private company throughout the project's life cycle.

2.2. Value co-creation in projects

There are two main theoretical approaches to understanding the basis of value co-creation, originating from the disciplines of marketing and service sciences. The first, based on the seminal work of Prahalad and Ramaswamy (2004), highlights the shift from the company-centric towards the customer-centric view, where customers interact with companies and co-create value together. Traditionally, until the 21st century, companies have been the value definers and creators for customers, without the customers' input and effect on the value (i.e. there are no interactions or collaborations with the company) (Prahalad and Ramaswamy, 2004a). They argue that this interaction for value co-creation—also known as the DART model—consists of dialogue, access, risk assessment and transparency between the company and the customer. The second approach relies on the change from a goods-centred view (where value creation is based on the exchange of products) towards service-dominant logic (SDL), which also considers services and offerings for customers (Vargo & Lusch, 2004). SDL perceives value as the benefits accrued from the utilisation of project outcomes by end-users, often described as 'value-in-use' (Chang et al., 2013). The SDL logic implies that actors (both the company and the customer) employ their competencies, such as skills and knowledge, to foster value creation (Vargo et al., 2008). Co-creation of value can occur when they share and exchange these competencies (Taghizadeh et al., 2016). However, both approaches have similarities in terms of emphasising the customers' role in value creation (Galvagno & Dalli, 2014). Notably, SDL seems to be the more extensively used approach in project management studies (e.g. Chang et al., 2013; Chih et al., 2019; Fuentes et al., 2019; Smyth et al., 2018).

The literature offers numerous definitions of co-creation of value stemming from the approaches of Vargo and Lusch (2004) and Prahalad and Ramaswamy (2004). Co-creation of value can be seen as a process in which stakeholders collaborate with and influence each other to create opportunities for synergistic outcomes (Gardiner, 2014); that is, it is an interactive practice in which stakeholders actively and jointly contribute their ideas to create value (Prahalad & Ramaswamy, 2004). This collaboration has not been adequately defined in the literature, although Bedwell et al. (2012) defined it as an evolving process in which at least two social entities actively and reciprocally engage in joint activities by pursuing one or more shared goals. Collaboration often enables organisations to achieve results or solutions to problems they could not achieve on their own (Savage et al., 2010). Eriksson et al. (2017) conceptualised value co-creation as a set of practices in design and production spaces in which project actors integrate their resources to create value together. In addition, regarding the definition, there seems to be an ongoing debate on which terms should be used: to what extent co-creation should and could be differentiated from the term co-production remains unclear (Galvagno & Dalli, 2014; Grönroos & Voima, 2013).

In light of this study, the aforementioned definitions for value co-creation suggest that collaboration occurs between project actors and creates value that the actors cannot achieve on their own. However, for which actor or actors value is created—is it value for both or value for just one actor—remains unclear. The SDL states mainly that the co-creation of value aims to produce value to the municipality (end

user's value-in-use) when the project is finished but not for both or just for the company. This one-sided consideration of value can be seen as theoretically incomplete (Vargo & Lusch, 2017). In this study, we apply the service exchange point of view from the SDL, denoting that value co-creation may occur in collaboration between actors, where they share and exchange their knowledge and skills. Furthermore, in contrast to SDL but in line with the approach of Prahalad and Ramaswamy (2004), we understand co-created value slightly broader as not just value-in-use but value for both actors (company and the municipality), individually or together, during any phase of the project life cycle. This choice of understanding value realisation that occurs in all phases of the project (not just the usage phase) limits the full utilisation of the SDL logic (Grönroos, 2011). Furthermore, it has been highlighted that value-for-firm, that is, the company's perspective for achieved values (e.g. increased revenues), should also be considered (Chih et al., 2019). Understanding its relation to value-in-use for the customer is also important (Grönroos & Helle, 2010). In accordance with Chih et al. (2019), we emphasise the processual nature of value co-creation: there are inputs (e.g. skills and knowledge), processes (interactions and collaboration between co-creation actors) and outcomes (value for the actors). Value co-creation occurs when all parts of the process exist, leading to a paradigm that all co-creation involves collaboration but not vice versa (collaboration without value outcomes is not value co-creation). Nevertheless, collaboration between actors can be seen as a prerequisite for value co-creation (Austin & Seitanidi, 2012).

2.3. Front end of projects

There is no universally accepted definition of the project's front end (Edkins et al., 2013). Some scholars have conceptualised it simply as the preliminary phase before project implementation (Morris, 2013), whereas others have identified the authorisation for using time, money and effort to formulate the project as the start of the front end (Kim & Wilemon, 2002). Williams et al. (2019) conducted an extensive literature review of the project's front end and identified a sequence of events that characterises the project's front end: the initial project idea, stakeholder recognition, conceptual project alternatives and, finally, the go or no-go decision. Our study relies on a slightly broader definition than those offered by the extant literature. We define the project's front end to start when the initial idea of a project is formulated and ends when the project parties engage in negotiations and possibly draw up a contract, from which point the project proceeds to the execution or implementation phase.

In the front end, stakeholders must negotiate the project's value creation and agree upon and establish a shared understanding of the project goals (Edkins et al., 2013; Liu et al., 2019). Stakeholders share their views regarding the expected values to be realised and participate in the interactive creation of a common understanding, thereby moving the project forward (Artto et al., 2016) and establishing a shared vision of the project (Chi et al., 2022; Lavikka et al., 2017). These processes of identification, prioritisation, formulation and realisation of value (Breese, 2012) may enhance project outcomes over time (Fuentes et al., 2019). The viewpoints of different stakeholders need to be acknowledged and negotiated when creating value in the project's front end (Kolltveit & Grønhaug, 2004; Veeneman et al., 2009). Shaping stakeholders' expectations about reaching a common understanding of project values is important for the project's success (Martinsuo, 2019). If a common understanding is not reached, the project is likely to fail (MacDonald et al., 2013).

2.4. Value co-creation in urban development projects' front end

The term 'UDP' is typically used for large and comprehensive forms of urban development, such as infrastructure construction and real estate development, as well as for the creation of other urban spaces (Jaros, 2016; Li, 2014; Li et al., 2013; Shen & Wu, 2017), such as

museums, waterfronts, exhibition halls, parks, business centres (Swyngedouw et al., 2002), airports, shopping malls, business and city districts (Gualini & Majoor, 2007; Toukola & Ahola, 2022) and renovations of historic districts in a city (Lehrer & Laidley, 2008). 'UDP' can thus refer to a wide range of projects.

Due to the multilevel nature of urban development, such projects often involve multiple stakeholders from the public and private sectors. The public sector plays a regulating and facilitating role in urban development (Verhage, 2003), which means it has great power over UDPs. Municipal actors (in this study, the municipality), local authorities and policymakers are examples of stakeholders from the public sector. Private-sector actors, such as contractors and consultants, play an important role in UDPs as well (Gardesse, 2015). UDPs can either be led solely by the municipality, without any resources from the private sector, or as a joint operation between the public and private sectors (on the basis of private-public partnerships; see e.g. Cui et al., 2018). If it is a joint operation, one of the parties will be the main lead of the project (Heurkens & Hobma, 2014). The exact division of responsibility and power balance in the project depends on the jurisdictional capacity that the public actor can leverage: a stronger public actor can exert more influence to better control the outcomes of their UDPs (Noring et al., 2021).

UDPs are especially complex environments for value creation since the process involves multiple stakeholders at different project phases and thus, the co-creation of value can be investigated from different perspectives. As Gardesse (2015) stated, private-sector actors are important in the front end of such projects. Candel et al. (2021) identified conflicts in these processes as a potential source of value co-creation because stakeholders unite in resolving such conflicts. However, from a facilities management point of view—and also as the SDL suggests to a certain extent—the end user is key stakeholder (Bryson et al., 2023) who is typically not a part of the dialogue between the private and public sectors. Since user experience is created in the interaction between users and the built environment, value co-creation in finalised UDPs is ultimately an ongoing interactive process that may vary over the day, week, month or year. Van Hoof and Boerenfijn (2018) applied the concept of co-creation to housing development by involving end users, gathering, and refining ideas for technological innovations. Lundström et al. (2016) examined co-creation in campus development with end users and discovered that continuous co-creation throughout the project is essential; otherwise, some of the achieved value might be lost. Lately, end users have become a more active part of the UDP process through both social media and unofficial actions, such as urban patching, which aims to improve the urban environment (Bryson et al., 2023).

In this study's context, we rely on the assumption that the municipality's and end-user's value correlates because the municipality can—and to some extent, it must—take into account the end users' (i.e. citizens) perspectives by engaging them into UDPs (Luyet et al., 2012; Reed, 2008; Toukola & Ahola, 2022). Furthermore, differing from the vast majority of other studies, we have the explicit focus on the perspective of the municipality and the private company as they have the greatest input in steering UDPs (Lu et al., 2021) and the co-creation of value. Therefore, it is important that these stakeholders find each other, which creates the basis for the project to progress (i.e. possible project partners are found) (Toukola et al., 2023). They often promote or oppose the project and frame early ideas about the project's value (Zerjav et al., 2021). In UDPs, the perceptions of value between the municipality and private company may be completely different or even conflicting (Klijn & Teisman, 2003). In urban development, both parties have their own interests and viewpoints that demand attention to be integrated into the project (Bowman & Ambrosini, 2000).

In the context of urban development, some processes that occur between public and private actors have been identified. Procurement and zoning processes offer possibilities for value co-creation in UDPs if the stakeholders' differing goals and values come into conflict, emphasising

the different perspectives in the project. When these conflicts are resolved to mutual satisfaction, value is co-created, whereas an unresolved conflict leads to the destruction of value (Candel et al., 2021). Negotiations between the municipality and the private sector have also been identified as important influencers of value co-creation in the front end (Candel et al., 2021; Fuentes et al., 2019), and the DART model has been linked to the creation of shared understanding in construction and facilities management (Lavikka et al., 2017). These processes between stakeholders, which involve information sharing, communication and establishing relationships, may help justify the scope and value expectations concerning the project (Smyth et al., 2018) and improve the project's value creation (Chih et al., 2019). Lack of information and uncertainty are the main negative influences on decision-making in the project's front end (Williams et al., 2019), and mitigating these problems may enhance value creation. In addition to mutual decision-making and shared goals (Lavikka et al., 2015), mutual trust and understanding have been identified as important enablers of value co-creation in the project's front end (Bygballe et al., 2016; Pauget & Wald, 2013). Value co-creation that includes collaboration, engagement between actors and innovativeness may positively impact project performance and reduce uncertainties (Heredia Rojas et al., 2018). Furthermore, Eriksson et al. (2017) studied construction projects in urban development and found that co-creation may enhance learning in projects, and that successful co-creation demands mutual trust and sufficient competencies.

The DART model introduced by Prahalad and Ramaswamy (2004, 2004a) can be used to enhance value co-creation within projects. The aforementioned actions that may enhance value co-creation (e.g. minimising the uncertainty and increasing shared information) are in line with the building blocks of the DART model (Taghizadeh et al., 2016). *Dialogue* is seen as a requirement for sharing and creation of value as it

contains social interaction (Grönroos, 2004; Lavikka et al., 2017) and can increase trust amongst actors (Ballantyne, 2004). *Access* implies that both actors can utilise resources, competencies and data for mutual benefit (Prahalad & Ramaswamy, 2004). While value is co-created, the potential risks for the value should be acknowledged for both actors (Prahalad and Ramaswamy, 2004a). *Transparency*, being the final building block of the DART model, acts as an important enabler to increase mutual trust and confirms that the actors are clear with the intentions and values they want to achieve (Prahalad and Ramaswamy, 2004a; Tanev et al., 2011). In the domain of facilities management, Lavikka et al. (2017) utilised the DART model to study value co-creation processes and found that dialogue, shared understanding and shared context are important factors in value co-creation.

Extant studies have concentrated mainly on the period after the relationships have been formulated. For example, Matinheikki et al. (2016) suggested that value co-creation can occur when the relationship between project parties is characterised by coordination and mutual decision-making. Liu et al. (2019) examined formal meetings with market partners in the project's front end. However, only a small number of recent research on the co-creation of value have focused on the period before the relationships between the project parties are formally established, e.g. through negotiations or agreed contracts.

Table 1 summarises the literature review by presenting the central concepts of value and its co-creation in the UDP front end.

Based on Table 1 and the findings from previous literature, we are able to conclude value co-creation between the municipality and private companies in the front end of UDPs. Value co-creation is thus seen as a procedural endeavour where municipalities and private companies collaborate to produce outcomes of value that neither could achieve independently. This value benefits either or both parties involved. Possibilities for value co-creation can occur in zoning, procuring and

Table 1
Nature and creation of value in urban development projects.

Category/Factor	Conclusions	Reference(s)
Assumptions of value in projects	<ul style="list-style-type: none"> Value is multidimensional Value is perceived subjectively by the stakeholders Value depends on the level at which it is observed Value can be measured from different temporal perspectives 	Chih & Zwikael, 2015; Chih et al., 2019; Martinsuo & Killen, 2014; Ang et al., 2016; Laursen & Svejvig, 2016; Martinsuo, 2020; Martinsuo, 2019; Zerjav et al., 2021; Fuentes et al., 2019; MacDonald et al., 2013; Pargar et al., 2019; Ahola et al., 2008
Value constituents in projects	<ul style="list-style-type: none"> Value can be measured based on its constituents: benefits gained from and sacrifices made in a project Benefits and sacrifices are often challenging to objectively identify and measure <i>Nonmonetary</i> constituents: <ul style="list-style-type: none"> social and environmental benefits learning reputation trust productive relationships in the project organisation <i>Monetary</i> constituents: <ul style="list-style-type: none"> cost reductions business growth efficiency of the delivery project price repairs and maintenance costs 	Möller & Törrönen, 2003; Shenhar et al., 2001; Berman, 2007; Raval & Grönroos, 1996
Value co-creation in the project's front end	<ul style="list-style-type: none"> The project's front end provides ample opportunity for value co-creation Value co-creation is an interactive practice in which stakeholders actively and jointly contribute their ideas to create value Stakeholders can influence each other and integrate their resources to create value together Value co-creation has a processual nature Collaboration can be seen as a prerequisite for value co-creation The co-created value may be realised in later phases of the project Acknowledging and negotiating the viewpoints of different stakeholders 	Edkins et al., 2013; Matinheikki et al., 2016; Martinsuo, 2019; Prahalad & Ramaswamy, 2004; Eriksson et al., 2017; Gardiner, 2014; Chih et al., 2019; Austin & Seitanidi, 2012; Fuentes et al., 2019; Kolltveit & Grønhaug, 2004; Veeneman et al., 2009; Williams et al., 2019; Bygballe et al., 2016; Pauget & Wald, 2013; Lavikka et al., 2015; Prahalad & Ramaswamy 2004, 2004a
Factors promoting value co-creation in projects		

negotiating processes (Candel et al., 2021; Chi et al., 2022; Fuentes et al., 2019). The municipality's power and responsibility are determined by the jurisdictional capacity of the public actor (Noring et al., 2021), which has to acknowledge the value for other stakeholders as well (e.g. citizens) (Luyet et al., 2012). Furthermore, private companies have wider operational opportunities in UDPs. The assumptions of value between the municipality and private companies can differ or even conflict (Klijn & Teisman, 2003).

3. Data and methods

3.1. Case description

The empirical findings are drawn from our case study of a mid-sized Finnish city, where we studied three UDPs in progress. The case was chosen because it includes multiple ongoing UDPs, and the municipality and private companies have collaborated in the front ends of the various projects. We used a case study because the research topic, UDPs, are contemporary phenomena that take place within real-life contexts and are characterised by unclear boundaries between phenomenon and context (Yin, 2014). Research on the collaboration between stakeholders and their co-creation of value requires an understanding of the project's contextual nature (Smyth & Morris, 2007).

We examine three large, ongoing UDPs, all of which we refer to using pseudonyms. The first UDP, CityHall, is being collaboratively implemented by the municipality and a private firm that aims to build a town hall and a hypermarket in the same building. The project's plans are currently being made, and the stakeholders have engaged in multiple value-co-creation processes. For example, the location of the building has changed a few times as a consequence of the collaborative negotiations. This project is exceptional because the public and private sectors are collaborating as co-owners of the project, which is not a common practice in Finland. The second UDP, WoodenSchool, has recently completed its front end and is currently in the construction phase. The project will deliver a new cultural building complex that comprises a high school, a community college, a musical institute and spaces for hobbies, meetings and events of the citizens. The third UDP, HousingArea, is situated next to WoodenSchool. Occupying a former military area, HousingArea will furnish housing for over 10,000 people.

These UDPs make the city in question a fruitful context for our study. All three of the projects have included front-end collaboration processes, which are the focus of analysis, between the municipality and private companies. The different phases of the UDPs represent a good opportunity to examine both the front end, while it is ongoing, and projects in which the front end has been completed. This variety provides a more comprehensive perspective on the front end as a whole. We sought to collect data from actors who had participated in the projects for a long time and, therefore, had substantial experience with the aforementioned UDP front-end processes.

3.2. Collection of empirical material

Following Yang (2014), we considered empirical and rational perspectives when choosing our data collection method. We used semi-structured interviews as the main data collection method. Semi-structured interviews feature a reciprocal exchange between the interviewee and interviewer (Galletta, 2013), which enables the latter to formulate questions based on the interviewee's responses (Rubin and Rubin, 2011). The interview questions were formulated based on previous research (Kallio et al., 2016; Kelly et al., 2010; Wengraf, 2001). We included themes such as:

- project-management and -development mechanisms;
- actions taken in the project's front end;
- stakeholders' collaboration in UDPs; and

- involvement of the private sector in UDPs and collaboration between the private- and public-sector actors.

We carried out two rounds of interviews with representatives of the UDPs, including individuals from the municipality and private companies who had knowledge about the UDPs and their ongoing development. The two rounds resulted in a total of 27 interviews. The interviewees were identified in a meeting with the municipal actors and private company representatives. In addition, we used snowball sampling (Saunders et al., 2009, p. 240) during the interviews to identify additional relevant interviewees. Information about the interviews is presented in Table 2.

We conducted the first round of interviews between May and September 2021 and the second round between May and June 2022. The purpose of the second round was to deepen the findings from the first round. We interviewed the project manager and the head of facility services twice. The purpose of the second round of interviews was to deepen our understanding of and clarify the findings by asking follow-up questions after gaining a broader experience of the development district based on the first round of interviews.

Most of the interviews were carried out on Microsoft Teams, with a team of two to three researchers. The interviews were recorded and transcribed verbatim. We took notes during the interviews to increase the reliability of the study (Silverman, 2021). After each interview, the researchers conducted a brief meeting to summarise the main findings from the interview. With this approach, we aimed to achieve Sandberg's (2005) goal of establishing communicative, pragmatic and transgressive validity during data collection and analysis.

Table 2
Information about the interviews.

Interviews, Round 1: 20 h and 47 min		
Organisation	Interviewee	Duration (minutes)
The municipality	Project manager of CityHall (first interview)	60
The municipality	Associate mayor	88
The municipality	Head of facility services (first interview)	85
The municipality	Business director	82
The municipality	Project manager of infrastructure	83
The municipality	History specialist of development	84
The municipality	Project manager	86
The municipality	Project development manager	83
The municipality	Company collaboration manager	88
The municipality	Zoning manager	84
The municipality	Former city development manager	83
The municipality	Former project manager	51
Private company	Head of real estate development	89
Private company	CEO of local construction company	50
Private company	Head of real estate development	61
Private company	CEO of urban development consultation company	90
Interviews, Round 2: 13 h and 59 min		
The municipality	Project manager of CityHall (second interview)	65
The municipality	Headmaster of the community college	84
The municipality	Head of facility services (second interview)	80
The municipality	Head of teaching	80
The municipality	Project manager of WoodenSchool	75
The municipality	Headmaster of the school	75
Private company	Construction production manager	84
Private company	Operation manager of the construction	58
Private company	Project consultant	66
Private company	Head of construction	87
Private company	Accounting manager of construction	85
Totals: 27 interviews, 34 h and 46 min		

3.3. Analysis

Our analysis utilised an inductive approach (Fereday & Muir-Cochrane, 2006). The transcriptions of the interviews were sorted and analysed with Atlas.ti software. As suggested by Miles and Huberman (1994), the analysis and coding were performed partly in parallel with the data collection. Furthermore, the researchers discussed the findings and jointly developed the coding during the analysis.

To begin, we carefully read all the transcripts, aiming to code the material for first-order themes (Gioia et al., 2013). For example, whenever an interviewee described the negotiations between the municipality and private companies, we tagged the passage with the code *negotiating*. Repeating this process several times led to the discovery of four first-order themes, namely, *zoning*, *exploring*, *procuring* and *negotiating*. The identification of these first-order themes resulted in a highly significant finding of this study. Specifically, these themes represent the value co-creation processes, which we discuss in more detail in the results section.

After identifying the first-order themes, we analysed them further to identify co-created values and the collaboration between stakeholders and its characteristics; that is, we coded the data further to second-order themes. During the coding and analysis, we used document analysis to enhance the consistency and quality of the study by comparing different sources (Eisenhardt, 1989). We used data from documents received from the municipality (mostly project plans and documentation of the projects) as a secondary data source. These data helped us supplement and triangulate the findings from the interviews and understand the overall situation of the municipality's urban development.

In the results section, we use quotations from the interviews to illustrate certain key findings in an effort to improve the transparency of our analyses (Silverman, 2021). Although the language of the quotations was lightly edited and translated into English, we ensured that the core message of the quotations remained unchanged.

4. Results

The findings are divided into subsections based on the topic (value co-creation process) to which they are related. The value co-creation processes are presented in chronological order, beginning with zoning and ending with project negotiations. The name, definition and key features of the processes are presented in Fig. 1.

Each process is presented in more detail below. Notably, each process could have been initiated by either the municipality or the private company, depending on which organisation acted as the project owner. Moreover, although the processes typically occurred in the chronological order, exceptions could arise; for example, the need for zoning activities could emerge during the negotiation phase.

4.1. Zoning

The first value co-creation process is *zoning*. The municipality has guidelines (i.e. zoning maps) concerning what kinds of buildings and areas can be built in certain places. Zoning processes are often initiated by the municipality, are of long duration and can be performed simultaneously for different areas. Eventually, the zoning plan defines, amongst other things, what kinds of construction are allowed in certain areas. If the area is designated for a specific use, such as housing, other uses are not allowed, such as the construction of business premises. Areas can also be designated for mixed-use, which enables several different utilisations.

The municipality's zoning must conform to both national and regional zoning strategies, as well as the municipality's own guidelines. Zoning processes are thus often initiated by the municipality, although private parties may also initiate the process. When the zoning plans are made, the assumption is that these plans will eventually be realised. Depending on the level of projected value of the development activities, the planned area might or might not be an attractive business case for construction companies. Housing areas are especially attractive for both the construction companies and the public and private organisations. For construction companies, housing areas represent business opportunities through housing projects that will be sold off later, and the municipality expects to gain tax-paying citizens. Thus, the zoning process enables and defines future values, i.e. values that will be realised at later phases of the project (e.g. new taxpayers for the municipality who also act as house buyers for the construction company).

The main value created by zoning processes is based on the monetary value of the land because the municipality collects zoning fees from landowners based on the increased land value in which the development is projected to result. If the municipality is the landowner, it creates value for itself. However, private companies attempt to steer the process in such a way that results in the greatest benefit to them:

To be honest, often during the zoning process, there are many discussions going on, and [from the company's side] they are mostly about how it can be built in the cheapest way and secure profits. -Company co-operation manager, the municipality

Often, the discussion regarding construction and zoning is that prescriptions in the zoning map are too expensive to conduct. -Head of real estate development, private company

The zoning processes can also start on the basis of a private company's initiative if the company wants to change the zoning designation of their land. This is called *project zoning*, which is used when the project owner has already completed the plans for the project and zoning changes need to be made to enable construction. From the private sector's perspective, project zoning is valuable:

Value co-creation processes in the front end of urban development project

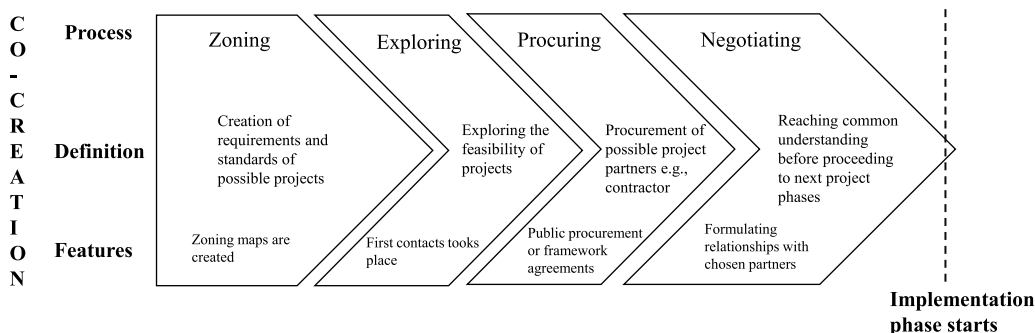


Fig. 1. Value co-creation processes in the front end of urban development projects.

Overall, there are two options. *Zoning* plans are made when the participating parties and goals of the project are known, or the zoning is made without knowing these. I [a company representative] prefer the first option because all parties' wishes are considered as early as possible. They are sitting at the same table. -Head of real estate development, private company

To summarise the zoning process of value co-creation, the municipality is always involved and always facilitates it and, thus, has a great deal of power over the process. Although private companies occasionally initiate the process, their involvement is usually restricted to influencing it when it is already underway by participating and negotiating with the municipality. However, zoning creates boundaries, standards and guidance regarding future projects.

4.2. Exploring

The second value co-creation process is *exploring*. The associate mayor related an example of how value was co-created by the municipality and a private company:

A friend of mine [a company representative] called and asked if they could find a place for a data centre in the city. We worked together at the municipality, which, in just nine months, led to the largest property trade that our municipality has ever made. -Associate mayor, the municipality

The first exploratory contact may strongly influence value creation. According to the interviews, in the exploration process, mutual trust and relationships are important factors of value co-creation. Often, the contacting person is a member of a private company whose aim is to determine whether their project idea can be realised in collaboration with the municipality. For example, in terms of the data centre, the municipality received a tax-paying company and the possible welfare that job positions in the data centre offer. Correspondingly, the company had a place for their operations to conduct business. The municipality and the private company collaboratively formulated and shaped these values during the exploring process. This collaborative work enabled the project to have progress and both parties to realise the values in future phases of the project.

A typical example of exploring is the first contact. A private company asks the municipality if it can buy public properties, with the aim of developing offices or facilities for operations (e.g. manufacturing). The company co-operation manager usually handles these requests; however, companies can contact top municipal managers directly. This was the case with the data centre: the associate mayor was contacted, and value co-creation occurred. In that sense, as several interviewees noted, the person who is first contacted regarding the project enquiry has a lot of influence on how the project will proceed. The size and reputation of the private company that makes the first contact also matter:

If I, as an entrepreneur, call the municipality and ask for an opportunity to build houses, and then there are representatives from a large, well-known construction company asking for the same, the 'doors will open' more easily for the large company. -CEO of a local construction company

Thus, in some cases, the municipality might be able to proceed with the project more easily if the contact is a large company as opposed to a small one. In that sense, the company's size may affect how well the project proceeds.

One reason that the municipality may 'open the doors' more easily to large companies is their brand value. For example, if companies with well-known brands are located in the city, their presence may attract more companies to move to the city or may signal that the city is successful. However, negotiating with small companies may be easier than with large ones because, in the former case, the CEOs themselves often take part in the negotiations. Given that CEOs have substantial decision-

making power, many issues can be resolved early on during negotiations. Collaborating with smaller companies thus provides more opportunities to create value during the negotiation process, especially when the parties involved have decision-making power.

In cases where the municipality is the project owner and needs resources from the private sector to execute the project, the municipality often needs to initiate a public procurement process, which is further explained in the next section. In Finland, there is an open public procurement website on which private companies can explore all public tender requests. Overall, the interviews suggested that one benefit that the system offers is its transparency for companies seeking business opportunities. For example, the website makes advance announcements about upcoming public project procurements so companies can decide whether they will participate in the bidding. All information regarding business opportunities are transparent and visible.

The exploratory contacts can occur anytime during the UDP's front end. Companies sometimes contact the municipality at the conclusion of the front end:

Large companies often prepare their projects secretly and contact the municipality only when they have a finished proposal. I believe they do not want [competitors] to hear about their plans. -Project manager, the municipality

The other way to proceed with exploratory contacts is an open discussion between the municipality and the companies from the very beginning of the project's idea formulation, as was the case in CityHall. At the time, the municipality and the private company openly planned and shaped the project together. This is a good example of value co-creation.

To summarise the exploring process, private companies often contact the municipality to explore whether their project can proceed. This process is a very important phase of the project's front end. Minor issues may prevent the project from proceeding or enable it. Value is mainly co-created if the project can have progress.

4.3. Procuring

The project manager of the municipality described the public procurement process for a small infrastructure project as follows:

First, we have to consider the request for tenders carefully because it is public procurement. . . . Then, we create it [the request for tender] and decide on comparison criteria for the tenders . . . Finally, we accept one tender and then wait about a month [the appeal period].

Municipalities and other public clients must adhere to official rules regarding public tendering processes when the proposed project reaches the predetermined threshold values, which, at the time of this writing, is €60,000. These rules include regulations concerning transparency, open procedures and non-discriminatory conditions for procurement. The process is laborious and resource-intensive for both private and public parties. Managing the tendering process requires significant effort from the municipality, and private companies may feel unfairly treated, especially if the process has not been as transparent as the regulations stipulate:

There are some [amongst the private companies] who complain about the procurement process if they feel that the process is not equal for all and mistreats them [usually if they do not win]. That is why we need to be very careful and transparent when comparing the tenders. -Head of facility services, the municipality

Possible disagreements about the tendering process and its results are reported to the juridical system. The ensuing delays in project delivery can be counted as a value loss because the client might have to redo part or all of the tendering process. For example, in WoodenSchool, one of the competitors complained to the judiciary about the procurement process; thus, the agreement with one contractor had to be

cancelled, and the municipality had to start a new procurement process.

The interview respondents saw transparency and clear rules, such as the open process for asking questions and the public nature of supplementary information related to requests for tender, as benefits of the public procurement process. However, this requires substantial resources to conduct. During public procurement, the municipality and the private company are usually barred from engaging in private discussions due to the rules regarding transparency.

Given that private companies are not subject to the legislation on public procurement, they have more freedom in relation to the tendering processes. Consequently, they have opportunities to utilise common learning, which benefits both the municipality and the private company, especially if the parties have collaborated on several projects in the past or will do so in the future. Municipalities are required to follow the legislation of public procurement in most of the projects; thus, they have fewer opportunities for learning between projects:

When comparing the municipality and the private company as project owners, I would say that the biggest difference comes from the procurement. A private company can do the procurement with more freedom and flexibility, for instance, ask for tenders directly from wherever they want, even from previous partners with whom they had collaborated. -Project consultant, private company

However, the municipality can enter into framework agreements with companies, where they do a larger, general-purpose tendering process and select a few companies for longer-term relationships. This kind of procurement process also enables mutual learning. The length of a framework agreement depends on the municipality. Some values can follow these procurements:

When using a framework agreement, we can have companies that we are used to working with and whose price-quality ratio is acceptable. -Project manager, the municipality.

However, framework agreements have some weaknesses. In some cases, the consultants with whom the municipality has entered into a framework agreement might be unable to devote sufficient resources to the work, and the already-fixed prices may be higher than they would have been if the consultants had been found using a normal procurement process that targeted a larger group.

In UDPs, the municipality usually requests tenders, whereas the company can engage in both tendering and bidding. The interviews suggested that the main problem for private companies if they are responding to bid requests, is the resource consumption related to public tendering, which creates direct costs for the company. These costs are often included in the tender itself, which can cause the company to try to minimise the amount of planning while creating the bid. Moreover, if the municipality is the project owner and has to choose whose tender will be accepted, the selection process may take a long time. During that period, the companies have to wait and must be prepared (i.e. they must reserve resources) to execute their bid as proposed if it is accepted.

4.4. Negotiating

In UDPs, after the procurement is completed and a bid is accepted, negotiations will commence. Negotiations in UDPs are crucial because they aim to establish a contract and eventually move the project into its next phase, thus allowing the project to proceed. In negotiations, a wide variety of issues are raised, from detailed practical concerns to a larger set of different issues. According to the interviews, value is co-created during negotiations when planning mistakes are minimised collaboratively and as early as possible and when the parties reach a common understanding of the project.

After that, we have the first meeting, where we go through the tender and plan together and try to make sure that we understand each other . . . Finally, we go through about 50–100 different drawings

and try to find mistakes [because it is better to find them while planning], but eventually, there will always be some in the construction phase. -Project manager of infrastructure, the municipality

Moreover, to avoid downstream problems or delays in the project, it is important to agree on the rules collaboratively and with great care. For example, during the implementation phase of WoodenSchool, the municipality and the private company encountered difficulties in agreeing to a suitable division of responsibility and a suitable cost allocation of amendments and additions of works. According to the interviews, it would have been valuable if such issues had somehow been resolved beforehand, that is, in the project's front end.

If the UDP is led by a construction company (construction companies often have their own resources for doing the construction work and do not require a procurement, unless they need a procurement for sub-contractors), negotiations can take place after the exploring process and can focus on whether the project can be executed. The crucial point is for the company and the municipality to reach a common understanding. As the former city development manager from the municipality stated, when the municipality negotiates with private companies, 'money talks—the motive is then easy to understand and negotiate'. When the parties understand each other's motives, the negotiating process is easier and more efficient, eventually resulting in the co-creation of value. Personal chemistry can influence the negotiations, i.e. the characteristics of the persons that enable the negotiation and proceed with it. Several respondents emphasised the need to understand the private sector, whereas others noted that companies should likewise consider the municipality's perspective:

We have to think about impartiality issues and legislation. They differ a lot from issues that private companies have to consider. They have to make sure that their business is profitable. -Project development manager, the municipality

In principle, companies have difficulties understanding the municipality's views. We have to develop the city in the long term, while companies often consider how to tailor the project to be the most optimal for them [in the short term]. -Company co-operation manager, the municipality

When actors have differing viewpoints in negotiations, they may generate more ideas and solve problems in the most beneficial way for all the parties involved. Overall, the respondents from the municipality felt that negotiations with large companies were more structured and easier than with smaller companies, mainly because they perceived representatives of large companies as more professional. However, regardless of the professionalism of the representatives, value is always co-created in the negotiation processes:

There are more brains concentrating on the same issue, which allows us to have a broader set of thoughts, thereby creating more value. -CEO of a private urban development consultation company

Furthermore, if an issue is recognised in the negotiations, value co-creation emerges if the solution is reached and the negotiations can proceed towards the next possible issue. Finally, one clear value outcome of the negotiation is the contract itself, wherein all the issues are settled or, at the very least, at a sufficient level that enables the parties to sign a contract.

As many of the interviewees stated, it is crucial that the negotiating parties trust each other, and trust should be established as early as possible. As a good practice for creating trust, several respondents advocated having 'kick-off' meetings when negotiations were starting and the project parties had been established. Such meetings lower the barriers to communication and enhance information sharing.

One value stemming from the interviews was the future value of having a reference project if the project is successfully delivered. The basis for such a value outcome is made in negotiations and when it leads towards a contract. This reference is believed to increase the reputation

Table 3

Summary of the results (M = the municipality, C = private company).

Value co-creation process and definition	Characteristics	Value constituents	Its recipient	
			M	C
Zoning <i>Creation of requirements and standards of possible projects</i>	The municipality has a more determinative role in value co-creation	Benefits <ul style="list-style-type: none"> ◦ Attraction of new taxpayers to the municipality ◦ Creation of new business opportunities ◦ Clear boundaries, standards and guidance are created regarding future projects ◦ Monetary value of land increases (if the municipality/company owns the land) ◦ Fees from the zoning process (if someone else owns the land) Sacrifices <ul style="list-style-type: none"> ◦ Cost of the zoning process (i.e. working hours in the municipal organisation) ◦ Consumed working hours to initiate or follow up on the zoning process ◦ Fees from the zoning process (if the private company owns the land) 	X	X
Exploring <i>Exploring the feasibility of projects</i>	The municipality has a more determinative role in value co-creation	Benefits <ul style="list-style-type: none"> ◦ Discovery of the project partners ◦ Progress of the project ◦ Potential brand value increase of the collaborating partners ◦ Time savings due to potentially efficient negotiations ◦ Joint planning of upcoming projects Sacrifices <ul style="list-style-type: none"> ◦ Initiation of the public procurement process ◦ Time and other resources invested in exploring project opportunities 	X	X
Procuring <i>Procurement of possible project partners, e.g. contractor</i>	Both actors have a very significant role in value co-creation Highly regulated process if conducted by the municipality (public procurement) Private procurement contains more freedom and is less regulated (the municipality is not involved at all)	Benefits <ul style="list-style-type: none"> ◦ Project parties are found ◦ Transparency of public procurement ◦ Joint learning from the process ◦ Rapid resource availability in framework agreements Sacrifices <ul style="list-style-type: none"> ◦ Resources invested in the public procurement and bidding processes ◦ Risks of juridical actions and delays of the project in public procurement ◦ Laboriousness and prolongation of the public procurement ◦ Resource reservation until a bid is accepted 	X	X
Negotiating <i>Reaching a common understanding before proceeding to the next project phase</i>	Both actors have a very significant role in value co-creation	Benefits <ul style="list-style-type: none"> ◦ Common understanding of each other's motives is reached ◦ Planning mistakes are minimised ◦ Project plans are improved and finalised ◦ Rules are agreed upon ◦ Formal relationships are formulated <ul style="list-style-type: none"> ◦ The actual contract is signed ◦ Basis are made for having a reference project Sacrifices <ul style="list-style-type: none"> ◦ Resource investment in negotiations and finalising project plans ◦ Potential conflicts between people 	X	X

and attractiveness of the company, enhancing the possibility of gaining more business opportunities. Furthermore, this reference may also boost the reputation of the municipality.

5. Discussion

5.1. Value co-creation processes between the municipality and private companies

In this study, we explore how value is co-created by the municipality and private companies in the front end of UDPs. In this section, we relate our empirical findings to those of previous research and answer our research question: *How do the municipal actors and private companies co-create value in the front-end phase of an urban development project?*

The literature suggests that value is created in a project context when the constituents of value, project benefits increase and project costs decrease (Ahola et al., 2008). The same applies to value co-creation, which occurs through a series of processes (Breese, 2012), steps or phases (Chih et al., 2019) or project activities (Artto et al., 2016; Laursen, 2018; Liu et al., 2019). Building on previous literature, our empirical findings show that in the context of UDPs, value is co-created through four processes that take place in the project's front end, namely, zoning, exploring, procuring and negotiating. Since the definition of value depends on the perspective taken, some of the values created in a

UDP are individual, while other values are co-created and, thus, are mutual. Table 3 summarises the results in terms of the value co-creation processes and value constituents in each process.

In each process, the municipality and the private company co-create value. Although there is no universally accepted definition of value (Chih et al., 2019), we related its four underlying principles: 1) it is multidimensional (Chih et al., 2019); 2) stakeholders perceive it subjectively (Laursen & Svejvig, 2016); 3) it depends on the level from where it is observed (Martinsuo, 2019; Zerjav et al., 2021); and 4) it is affected by the project's timeframe (MacDonald et al., 2013; Pargar et al., 2019). We focused on the municipality and the private companies' views (i.e. their values) regarding the front end of UDPs and found that several of the values that are co-created are not realised instantly, as Fuentes et al. (2019) suggested. Instead, their realisation will occur in the future, although the basis for that is made in the front-end co-creation processes. One example of this future value, which is in line with the study of Candel et al. (2021), is that if a private company succeeds in delivering the project, it can increase business opportunities in the future, i.e. as a reference project. Moreover, in addition to introducing the characteristics of the value co-creation processes, we offer insights into which party has more power to determine value creation. For example, the municipality has more power in the zoning through regulation. Moreover, we highlight the effect of regulation on value co-creation in UDPs. For example, public procurement is a laborious and

transparent process and may affect the learning between the project parties when compared with normal procurement.

5.2. Contributions to existing knowledge

This study has several contributions to existing knowledge. The four value co-creation processes that take place in the front end of UDPs complement the findings in previous literature. It has been shown that the processes of zoning and procurement (Candel et al., 2021) and negotiations (Chi et al., 2022) occur between the private company and the municipality; however, we added the process of exploring and explained how the processes are linked to one another.

It is worth noting the possibility that not all the observed values, such as monetary or future values, are co-created. For example, the municipality's decision-making power is high during the zoning process; thus, it can create value for itself by zoning the land it owns without the participation of a private company. This is in line with the findings of Fuentes et al. (2019) that the power in the value co-creation processes is not equally distributed and can actually lead to more benefits to one actor that could cause sacrifices to the other (Mills & Razmdoost, 2016). When a private company is involved in the zoning process, value co-creation might occur if the private company and the municipality collaboratively formulate better zoning plans that offer benefits, such as project opportunities and future values, to both (or just for the other) parties.

We found that there is a possibility that the co-creation process leads to destruction instead of the creation of value. This phenomenon was exemplified by the instance of the procuring process in which the municipality and the private company that won the bidding competition could not proceed with a collaboration. The company that came second complained about the procurement process, which led to delays and interruption of the process. This so-called co-destruction of value can occur if the co-creation somehow fails, which has been recognised in previous literature (Candel et al., 2021; Echeverri & Skållén, 2011; Järvi et al., 2018; Mills & Razmdoost, 2016). Furthermore, the collaboration may not change the status quo. In such cases, the collaboration neither creates nor destroys value; thus, it is just collaboration instead of value co-creation. This could occur if the municipality and the private company do not proceed with project negotiations. However, after closer consideration, time and resource consumption actually occur (those can be understood as sacrifices). The value outcome is not clear; however, in line with previous literature suggesting that value can be measured as a trade-off between benefits and sacrifices (see e.g. Ahola et al., 2008), the other value constituent, sacrifice, occurs and has some influence on the value. This strengthens the assumption that collaboration is a prerequisite for value co-creation (Austin & Seitanidi, 2012), and to some extent, if there is no co-created value outcome, the collaboration can then be understood as value co-destruction (Mills & Razmdoost, 2016).

Our findings clarify the different levels of value creation regarding the value co-creation processes and the characteristics of each process. This is in line with previous findings by Martinsuo (2019) and Zerjav et al. (2021). While previous studies have concentrated on macro-level practices of value co-creation in the project's front end (Cova & Salle, 2008; Morris, 2013), we provide insights into the micro-level practices of value co-creation. On the micro level, we find that in all three projects, mutual understanding and trust play major roles in value co-creation because they relate to relationships in project organisation, lending support to the findings of Bygballe et al. (2016), Candel et al. (2021), Lavikka et al. (2015), Lavikka et al. (2017) and Pauget and Wald (2013). Furthermore, personal chemistry between the people collaborating was seen as an important factor affecting value co-creation because it enables reaching mutual understanding and trust more easily, in line with the study of Larsen et al. (2021). Our study highlights the conflicts amongst and complaints of the key stakeholders and their impacts on the project (e.g. re-executing the public procurement), which have been identified in previous studies (Candel et al., 2021; Denis et al.,

2011; Mele, 2011). Liu et al. (2019) demonstrated that meetings or 'sessions' in which the project parties engage in shared planning lower the barriers to collaboration. Likewise, we show that numerous kinds of collaboration between the municipality and private company, especially the kick-off session, can potentially provide opportunities for value co-creation.

Our detailed account of the co-creation processes offers insights into the development of value co-creation in UDPs. Overall, our findings strengthen the building blocks of the DART model (Pralhad & Ramaswamy, 2004, 2004a) as the basis for enhancing value co-creation in UDPs. Given that uncertainty and lack of information in the project's front end negatively influence value co-creation (e.g. Kolltveit & Grønhaug, 2004; Williams & Samset, 2010), it follows that value can be co-created if the municipality and the private company reduce uncertainty and missing information, as suggested by Luotola et al. (2017) and the DART model's access (Pralhad & Ramaswamy, 2004). Uncertainty can be reduced, for example, by organising a kick-off meeting for the project organisation, which could lower the barriers to collaboration.

Similarly, our study identifies many opportunities for enhancing value co-creation in front-end processes. For example, the first contact between the municipality and the private company should be understood as a valuable starting point for the project, and the private company's input should be considered during the zoning process if possible. The four value co-creation processes found in this study highlight the need for both actors to be involved in each process, while the basis for the following process is made in the previous process. This is also noted in the study of Candel et al. (2021), where they stated that the co-creation processes before procurement may reduce the private companies' flexibility and constrain the scope of value that can be co-created in the project. This study also offers novel insights into what types of value, not done together, occur in the UDPs front end and how they can be developed.

We find that value is co-created through four processes, present their definitions, characteristics and corresponding co-created values, and discuss them, focusing on the perspectives of municipalities and private companies. Our research setting is novel because there is a dearth of research on front-end value co-creation in projects, especially in the context of urban development and when relationships between parties are not established.

6. Conclusion

6.1. Theoretical contributions

In this study, we investigate how the municipality and private companies co-create value in the front end of UDPs. We offer holistic knowledge about value co-creation processes, which we identify on the basis of an empirical dataset consisting of 27 interviews and a set of documents. This study deepens the understanding of value and its co-creation in projects, particularly in the front end of UDPs.

Our study lends support to the findings of previous studies of value co-creation (Artto et al., 2016; Breese, 2012; Candel et al., 2021; Chih et al., 2019; Liu et al., 2019) and the project's front end (Edkins et al., 2013; Larsen et al., 2021; Smyth et al., 2018) by showing that value co-creation in the project's front end occurs through the processes of zoning, exploring, procuring and negotiating. We aim to rectify the lack of a universally accepted definition of the project's front end (Edkins et al., 2013; Williams et al., 2019) by offering a unique definition that conceptualises the front end to start when the initial idea of a project is formulated and to end when negotiations—and possibly a contract—between the project parties are completed, from which point the project proceeds to the execution or implementation phase.

This study emphasises that value co-creation or value co-destruction can occur in UDPs, depending on how the value co-creation processes proceed. In the complex setting of UDPs, in which the municipality and the private company may have opposing values, it is important to

recognise the subjective nature of value (e.g. Laursen & Svejvig, 2016). Although value is subjective, our study identifies which parties play the determining role (i.e. more power to steer the process) in value creation. Moreover, our findings offer a novel understanding of the co-creation of value before the formal relationship between the municipality and the private company is established.

6.2. Managerial implications

This study offers several insights for managers of both public and private organisations (see Fig. 1 and Table 3). First, understanding the perspectives and goals of others is crucial and helps the project proceed. Often, the private company's opinions are well understood by the municipality, but not vice versa. The municipality's views and legislation are considered only on a superficial level, and they cannot operate as freely as private companies can. Our study reinforces the fact that understanding the other project party's motives is an essential factor of value co-creation.

Second, our explicit account of the value co-creation processes rationalises the phases of the project's front end. Understanding the characteristics and possibilities of each process can help managers enhance value co-creation. For example, the aforementioned mutual understanding between project parties should be understood as an important factor in all the processes, as also noted in the study of Candel et al. (2021). Moreover, the value co-creation processes are sequential, ordering that in previous processes, some bases are made for becoming processes, e.g. the zoning process determines a lot of possibilities that are available in later processes.

Third, when managers aim to establish mutual trust and develop a productive personal chemistry between the municipal and private company actors, the setting becomes fruitful for value co-creation. Overall, this study offers managers' insight into what kinds of mechanisms (e.g. meetings that reduce barriers to collaboration) should be incorporated into each co-creation process.

6.3. Limitations and further research

This study's limitations are related mainly to its empirical and methodological setting. Given that our research is limited to a single project context, our results cannot be generalised without further research (Yin, 2014). Nevertheless, by explaining our rationale for selecting the case study setting and describing the case, we achieve external validity to some extent (Gibbert & Ruigrok, 2010). Due to the confidential and sensitive nature of the phenomena discussed, the cases and interviews are anonymised, which decreases the study's validity. We, therefore, describe our analysis and the path from the research question to the conclusion in as much detail as possible (Yin, 2014).

This study reveals the need for further research. First, it would be interesting to study if the findings are generalisable, according to Eisenhardt (1989), by conducting robust cross-case analyses on several similar projects. Second, although this study discusses the basis of value co-creation in UDPs, a study of how and through what kinds of processes or practices value co-creation can be enhanced would be extremely useful. Third, given that this study focuses on the project's front end, there is a need for research on value co-creation processes that occur in later project phases, such as during implementation and use. Finally, we highlight the multidimensionality of value. We have now concentrated on values explicitly from the perspective of the municipality and private company. Research could address values from perspectives other than those of the municipality and private companies because other stakeholders are also involved in urban development.

Declaration of Competing Interest

None.

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