buildings

MDPI

Article

Achieving Social Sustainability in Public–Private Partnership Elderly Care Projects: A Chinese Case Study

Kun Wang [1], Yongjian Ke [2,*] and Shankar Sankaran [2]

[1] School of Civil & Environmental Engineering and Geography Science, Ningbo University, Ningbo 315211, China; wangkun@nbu.edu.cn
[2] School of Built Environment, University of Technology Sydney, Ultimo, NSW 2007, Australia; shankar.sankaran@uts.edu.au
* Correspondence: yongjian.ke@uts.edu.au

Abstract

Social sustainability is crucial in Public–Private Partnership (PPP) elderly care projects, as it ensures that the private sector prioritises improving stakeholders' quality of life alongside profit generation. This study explores how to structure PPP projects to effectively achieve social sustainability. The research adopts a prescriptive theorising approach, using predefined social sustainability goals as a basis for exploring their achievement process. A single case study was conducted on an elderly care PPP project in China. The case analysis confirms that achieving social sustainability is vital for PPPs, requiring sustainable processes to guarantee the delivery of sustainable services. This research contributes to understanding how social sustainability can be achieved in PPP elderly care projects, with a particular focus on the achievement process. By focusing on elderly care, the study demonstrates how PPPs can be structured to deliver high-quality care services and proposes a structured method for analysing and achieving social sustainability by integrating prescriptive theorising with backcasting. Additionally, the research findings assist both the public and private sectors in refining policies, strengthening governance, and enhancing the long-term sustainability of elderly care PPPs.

Keywords: public–private partnership (PPP); social sustainability; elderly care; quality of life; case study; China

check for updates

Academic Editors: Jie Yin, Yifan Yu and Esther H.K. Yung

Received: 4 August 2025
Revised: 29 August 2025
Accepted: 2 September 2025
Published: 5 September 2025

Citation: Wang, K.; Ke, Y.; Sankaran, S. Achieving Social Sustainability in Public–Private Partnership Elderly Care Projects: A Chinese Case Study. *Buildings* **2025**, *15*, 3202. https://doi.org/10.3390/buildings15173202

Copyright: © 2025 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Public–Private Partnerships (PPPs) have emerged as a vital delivery model for infrastructure and public service projects over the past four decades. This model seeks to generate social value by aligning public service delivery goals with private sector incentives [1]. It exhibits cross-sectoral and cross-industry applicability [2], with applications spanning healthcare, affordable housing, etc.

PPP projects prioritise sustainability as a key objective, the achievement of which depends on sustainable processes [3]. When properly structured and implemented, they can help bridge gaps in infrastructure and public service while improving service quality. Existing research has extensively investigated sustainability in PPPs [4]. Sustainable practices throughout the project lifecycle have also been examined [5,6].

However, in comparison to traditional procurement projects, PPP projects are more complex, necessitating clearly defined project outputs, a reasonable allocation of roles and responsibilities, appropriate risk distribution, and better integration of expertise and

resources [7]. This characteristic subjects this model to more significant challenges regarding sustainability, such as service accessibility, meaningful participation, and vulnerability to crises [8]. Evidence indicates that PPP projects worldwide encounter sustainability issues [9].

Furthermore, the relationship between PPPs and sustainability should be examined through three key dimensions: economic, environmental, and social, which form the three pillars of sustainability. Social sustainability in projects is crucial, as it involves the well-being of stakeholders and improvements in quality of life [10]. Incorporating social sustainability considerations throughout the project lifecycle boosts long-term benefits, whereas neglecting them can result in risks [11]. However, the social sustainability of PPPs has not garnered adequate attention [12].

This neglect could be detrimental to PPP projects, as social sustainability is particular significance for them. The profit-driven nature of the private sector may undermine the social value that PPPs aim to create [13]. Unfortunately, such concerns are being validated. Study [14] has found that the private sector's pursuit of long-term financial returns may harm end-user interests. Study [15] demonstrated how private sector profit motives can compromise public interests. The optimal approach to achieving social sustainability lies in carefully considering and planning activities throughout the project lifecycle [16], including understanding stakeholder needs [17], pre-qualifying suppliers [18], designing and constructing the built environment [19], and enhancing the accessibility and diversity of services [20]. However, existing research has paid insufficient attention to the various participating entities and lacks systematic studies on practices and realisation pathways [16,21]. There is an urgent need to identify the specific actions each stakeholder should take [22] and to explore context-specific, process-oriented systemic pathways for integrating social sustainability [23].

Therefore, the key research question of this study is: How do PPP projects achieve social sustainability? The research aims to explore the structuring of PPP projects to effectively achieve social sustainability. Grounded in prescriptive theorising, it adopts a single-case study approach supplemented by content analysis and backcasting methods to examine a Chinese elderly care PPP project. Elderly care PPP projects refer to long-term contracts between the public and private sectors, under which the private partner provides centralised accommodation, support, and care services for older adults at designated sites. Since 2015, China has formally endorsed PPPs in elderly care. By mid-2022, approximately 100 such projects were recorded in the Ministry of Finance's project management database.

This research contributes to the field of healthy aging and built environment by examining PPPs in the delivery of elderly care services, with a primary focus on social sustainability. Through an in-depth analysis of the case project, it offers valuable insights into how PPPs can be leveraged to deliver care services, highlights the importance of social sustainability, and explores PPPs' potential to achieve it. Furthermore, the study broadens the application of prescriptive theorising and backcasting, establishing their relevance within the context of PPPs and social sustainability. A structured approach is introduced, synthesising prescriptive theorising with backcasting to analyse and realise social sustainability in elderly care PPPs.

2. Literature Review

2.1. Achieving Sustainability of PPP Projects

Few studies have specifically examined the social sustainability of PPP projects. Therefore, it is necessary to adopt a broader perspective—that of comprehensive sustainability—to grasp this issue. The sustainability of PPPs emphasises sustainable practices throughout the entire project lifecycle to minimise environmental and social impacts [24]. Study [25]

argues that the public sector should clearly define sustainability objectives during project conceptualisation.

PPP projects that prioritise sustainability emphasise collaborative governance between the public and private sectors. To achieve this, both formal and informal governance tools can be employed to resolve institutional conflicts, integrate project resources, and establish coordination mechanisms [26]. Contractual governance serves as the primary formal governance instrument [27]. The public sector can adopt practices such as selecting sustainable private partners [28], and designing projects rationally [5]. Additionally, the public sector should leverage informal governance to advance project sustainability [6].

2.2. PPP Projects in Elderly Care Sector

Population aging is driving a rapid increase in demand for elderly care services, which include both home-based assistance and institutional care that encompasses daily living support, personal care, healthcare services, and accommodation [29]. Governments are encountering growing challenges in delivering these public services independently [30]. In this context, some countries have started to experiment with PPPs in this sector.

Existing research on elderly care PPPs has primarily concentrated on Australian and Chinese contexts. In Australia, PPPs have been applied to the development and operation of retirement villages. Study [31] highlighted best practices for the sustainable development of retirement village PPPs, including age-friendly design, suitable location, and more. Five risk factors were identified as significantly impacting project development [32]. Study [33] further recognised "affordability", "reduced social isolation of residents", and "improvement of emotional well-being of residents" as the three most critical success criteria for these projects.

Research on PPPs in China's elderly care sector is more fragmented. Study [34] examined three models of elderly care PPPs in Guangdong Province. Study [35] identified critical practices that should be adopted and proposed a process for achieving social sustainability in such projects. Study [36] developed a post-occupancy evaluation model for community elderly care PPP projects.

2.3. Social Sustainability of Elderly Care Projects

Social sustainability in elderly care projects refers to the comprehensive consideration of social impacts on stakeholders throughout the entire project lifecycle and the realisation of their well-being [37]. Mirroring the research landscape on PPP social sustainability, global studies specifically addressing social sustainability in elderly care projects are still limited. In China, Study [38] found that most issues identified within residential elderly care environments were directly related to social sustainability. Further, study [37] developed a social sustainability indicator framework for elderly care projects, revealing that the current status of social sustainability achievement is suboptimal in China. Building on this, study [35] proposed a process for attaining social sustainability in elderly care PPPs. Study [39] identified specific social sustainability characteristics of China's Continuing Care Retirement Communities (CCRCs).

In Australia, a study reached conclusions similar to those in China, indicating that the social sustainability of the elderly care system is inadequate [40]. Additionally, scholars have examined the social sustainability of Australian retirement villages, finding it valued by both developers and residents [41]. Developers are encouraged to provide facilities to enhance resident interaction and improve social sustainability [42]. Another study conducted in Slovenia assessed the impact of nursing home architecture and open spaces on social sustainability. The findings indicated that, following the COVID-19 pandemic,

private investors prioritised economic efficiency over concerns for the quality of life of older adults [43].

2.4. Research Gap

The literature review offers two key insights: (a) PPPs represent a viable model for delivering elderly care services; and (b) social sustainability is critical to PPPs. However, research on elderly care PPPs in China either examines the division of ownership, construction, and operational responsibilities among different sectors [34] or develops post-occupancy evaluation frameworks [36], neglecting the project lifecycle and sustainability. Meanwhile, studies on the social sustainability of elderly care projects have primarily focused on assessment, such as [37,38,40]. They neither offer a comprehensive understanding of project implementations [44] nor clarify how to achieve social sustainability [35].

This study aims to address this research gap by exploring, from a life-cycle perspective, how to structure PPP projects to effectively achieve social sustainability. Before presenting the research design, it is necessary to briefly introduce two foundational studies. First, a social sustainability indicator framework for elderly care projects in China has been developed [37]. This framework considers ten social needs across three interested parties, encompassing twenty-one indicators (see Table 1 for details), illustrating what constitutes a socially sustainable project. Another study delineated a series of critical practices (CPs) for government agencies, private investors, and Special Purpose Vehicles (SPVs), and outlined twenty-one realisation paths to deliver social sustainability [35]. This study seeks to integrate the indicator framework and realisation paths, examining their application in elderly care PPPs to achieve stakeholder well-being.

Table 1. An indicator framework for social sustainability in China's elderly care projects †.

Interested Parties	Social Needs	Indicators
1. Employees	1.1 Equity and fairness	1.1.1 Equal employment opportunity 1.1.2 Fair employment contracts and equitable compensation
	1.2 Health and safety	1.2.1 Healthy and safe workplace 1.2.2 Healthy and safe Policies and procedures
	1.3 Education and training	1.3.1 The mastering of professional skills 1.3.2 Improved sustainability awareness
2. Elderly and their relatives	2.1 Equity	2.1.1 Equal access to the project 2.1.2 Equal access to services and facilities
	2.2 Health and comfort	2.2.1 Basic needs met 2.2.2 SHealth and physical comfort needs met 2.2.3 Psychological comfort needs met
	2.3 Accessibility	2.3.1 High project accessibility 2.3.2 High facility accessibility 2.3.3 Easy access to older adults
3. Local community and society	3.1 Local economic welfare	3.1.1 Job creation 3.1.2 Generated business opportunities 3.1.3 Local stakeholder involvement
	3.2 Health	3.2.1 Improved local health outcomes
	3.3 Local identity	3.3.1 Preserves and fostered local culture
	3.4 Social inclusion and social cohesion	3.4.1 Promotion of social mixing 3.4.2 Enhanced community vitality

†: The table is sourced from [37].

3. Methodology

This study employs prescriptive theorising to analyse the achievement of social sustainability in elderly care PPP projects. Prescriptive theorising consists of normative arguments, focusing on the ideal state of affairs and the pathways to achieve it [45], thereby providing a robust complement to traditional descriptive theorising [46]. It not only clarifies ideal objectives but also offers a roadmap for achieving them, making it particularly suitable for addressing grand societal challenges such as population aging [47]. This characteristic renders prescriptive theorising highly relevant to this study. As summarised in Section 2.4, social sustainability is critical for elderly care PPPs. However, there remains a lack of clear definitions for its ideal state and coherent pathways to achieve it—a gap that aligns precisely with the core focus of prescriptive theorising.

An exploratory single case study was conducted to analyse the progressive adoption of CPs by public and private sectors across the elderly care PPP lifecycle to achieve social sustainability and to derive insights. Guided by prescriptive theorising, this study establishes social sustainability goals in advance and uses them as a guide to analyse how projects achieve success.

3.1. Case Selection

Project X, an elderly care PPP initiative in Shenzhen, Guangdong Province, China, was chosen based on two criteria: (a) it has entered the operational phase and is recognised by practitioners as successful; and (b) it has no negative press coverage. Given that practitioners may not be familiar with the concept of social sustainability, "success" is used as a substitute, with the implicit assumption that a successful project adheres to high social sustainability standards. Project X was recommended by experienced practitioners in the elderly care PPP sector known to the authors.

The implementing agency for Project X is the Civil Affairs Bureau of District A in Shenzhen. In June 2019, the Bureau issued a competitive tender notice for a PPP project involving the District A Welfare Centre (a publicly built and operated elderly care institution). Company B won the tender, and a contract was signed in July 2019. The project has a total capacity of 791 beds, a concession period of 15 years, and a user-pays payment mechanism. It aims to provide universal and affordable elderly care services. Company B is required to ensure that it provides affordable, convenient, and accessible services to residents with household registration in District A, particularly for elderly individuals identified as the 'Three No's' (those with no children or relatives, little or no income, and no ability to work), recipients of the minimum living allowance, and other specific groups such as veterans and the very elderly. These groups receive financial support from the local government and pay fees below market prices, with 400 government-subsidised beds designated for this purpose. The remaining 391 beds are allocated market-rate services to elderly individuals not registered in District A.

Project X serves as a "critical case". According to [48], a critical case is one that is "most likely" or "least likely" to test propositions. Shenzhen, a flagship of China's reform and opening-up, was designated in 2014 as a pilot city for comprehensive reform of the national elderly care service industry. The municipal government prioritises a high-quality elderly care system and aims for internationally advanced public service standards by 2025 [49]. This strategic commitment provides a strong foundation for developing elderly care PPPs. Project X is Shenzhen's first standardised elderly care PPP, setting a benchmark for socialised elderly care services across the city. The District A Welfare Centre, established in 2015, had accrued four years' operational experience before the PPP model was introduced—a key reason for selecting Project X. Although China has numerous elderly

care PPPs, most involve new construction and are not yet operational [50], and thus cannot provide the depth of information required for this study.

3.2. Data Collection

Data collection was conducted through semi-structured interviews and project archive documents. Senior management personnel from Project X's consulting agency and SPV were chosen for in-depth interviews, representing both the public and private sectors of the project. Three criteria guided the selection of interviewees: (a) direct involvement in Project X, (b) holding a senior position in the project with adequate knowledge of it, and (c) an understanding of social sustainability. Three respondents were identified. Their demographic information is presented in Table 2.

Table 2. Demographic information of the interviewees.

Interviewees	Affiliated Institution	Age	Position	Elderly Care Industry Experience (Years)	Number of Elderly Care PPP Projects Involved
R1	Consulting agency	40–45	Senior project manager	5	3
R2	SPV	45–50	Project director	5	3
R3	SPV	30–35	Deputy project director	3	2

After identifying the interviewees, the authors initially collected archival documents of Project X to familiarise themselves with the project and develop an interview protocol. The protocol was semi-structured and used to identify CPs. CPs refer to behaviours or decisions made by the public sector, private investors, and the SPV involved in Project X that materially influence social sustainability—either directly or indirectly—over both the short and long term.

This study was approved by the ethics review board of the authors' affiliated institution. Before data collection, all participants were informed about the study procedures, their rights, and the confidentiality and anonymity safeguards. The interviews were conducted in July 2021, with informed consent obtained from all participants. With permission, all interviews were recorded and transcribed. Interviewees R1 and R2 were re-interviewed by phone in October 2021 to supplement the data.

3.3. Data Analysis

Data analysis was conducted in two stages.

First, content analysis was employed to identify CPs. Only practices that had already been adopted in Project X were considered. Each interview and document were treated as an analysis unit. Coding and categorisation in content analysis can be data-driven or based on a predefined framework [30]. This study employed both approaches. First, behaviours and decisions were coded as critical if they had a clear purpose or intention and explicit consequences or impacts [51]. A behaviour or decision qualified as a CP if it: (a) made a direct, significant, positive or negative contribution to the project's social sustainability goals; (b) determined the success or failure of a major task in the project lifecycle; or (c) positively or negatively affected practitioners' individual work and/or overall job performance. Second, the identified CPs were grouped in two dimensions: the timing of their occurrence and the implementing actors.

The first two authors coded independently in an iterative process, cycling between the text and interim outputs for verification and refinement. Identified CPs were cross

validated to ensure reliability. The coders' results were compared, and all authors discussed discrepancies until consensus was reached.

Second, the backcasting method was used to analyse how the identified CPs were implemented step by step to achieve social sustainability. Backcasting entails first defining a successful end state and then working backwards to plan specific actions from the present to reach that goal. This approach helps avoid sub-optimisation by starting from a strong definition of the desired outputs [52]. It aligns closely with the prescriptive theorising process. In this study, the established social sustainability indicator framework for elderly care projects was set as the goal. The identified CPs were then linked to the various indicators according to their implementation order.

Figure 1 illustrates the process of this study.

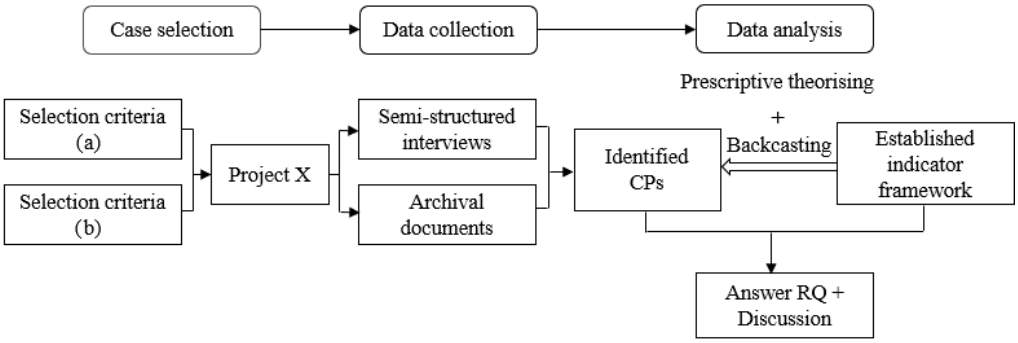


Figure 1. Research process of this study.

4. Results

The content analysis showed that thirty-three CPs were adopted in Project X. The identification of CPs strictly followed the coding principles. Given the dataset's homogeneity, findings from existing literature were referenced for triangulation when analysing the purpose or intent of a potential CP. The identification of CP-4, "The implementing agency selects consultants who contribute to social sustainability," serves as an example. Interviewees emphasised that consultant selection should prioritise their expertise, understanding of the project and procurement authority's requirements and processes, as well as their ability and willingness to provide recommendations. Consultants should address not only PPP processes but also elderly care solutions. Based on this view, CP-4 was initially identified. Further analysis examined the intent and consequences of this practice. The literature indicates that early engagement of consultants is a PPP success practice [53], and a strong consultant team supports social sustainability. The consequences correspond to criterion (b) in Section 3.3, the consultant team serves as the primary force for subsequent industry investigation and analysis, laying the foundation for downstream tasks (e.g., preparing the business case and procurement documents).

After identifying all CPs, their interdependencies were analysed based on each CP's consequences or impacts. For example, the outcomes of CP-4 enable CP-5, which in turn supports subsequent CPs toward the ultimate objective. Appendix A lists the thirty-three CPs, and Table A1 presents the correspondence among CPs, implementation timing, and adopters.

The remainder of this section primarily demonstrates the process of structuring Project X using the Backcasting method to achieve social sustainability. Two clarifications are necessary before presenting the results:

(A) Project X was taken over by the SPV in August 2019. In early 2020, the COVID-19 pandemic broke out in China, leading to the project's subsequently lockdown. As a result, while there were some conceptual plans—such as providing health education for the local community, allowing local residents to visit the project site, and encour-

aging elderly residents to participate in external social activities—these initiatives were not implemented due to the lockdown. In other words, from the takeover until the interviews, the project had little social impact on the local community and society. Hence, the Backcasting analysis focuses only on the fourteen indicators related to the first two interested parties. Table 3 summarises the indicators that were backcasted, along with those excluded and the reasons for their exclusion.

(B) For brevity, indicators associated with the same social impact were backcasted together.

Table 3. Indicators' backcasting status and the rationale †.

Backcasting	Yes	No	Rationale
Indicators	1.1.1, 1.1.2, 1.2.1, 1.2.2, 1.3.1, 1.3.2, 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.2.3, 2.3.1, 2.3.2, 2.3.3	3.1.1, 3.1.2, 3.1.3, 3.2.1, 3.3.1, 3.4.1, 3.4.2	The case did not implement relevant practices due to the pandemic.

†: The indicator numbers in this table are consistent with those in Table 1.

4.1. To Achieve Employee Well-Being

Education and training represent one of the impacts of elderly care PPP projects on employee well-being, encompassing the two most important indicators, namely mastering professional skills (Indicator 1.3.1) and improving sustainability awareness (Indicator 1.3.2) [37]. This subsection uses the realisation of these two indicators as examples to illustrate the analysis results obtained through the Backcasting method.

During the project preparation phase, the public sector undertook a series of behaviours and decisions. First, the Civil Affairs Bureau of District A incorporated employee education and training into the feasibility study (CP-1). Second, the implementing agency selected a consultant who contributes to social sustainability (CP-4). Then, the implementing agency assisted the consultant in conducting industry research (CP-5), introduced stakeholder engagement (CP-6), and provided references for formulating a business case that emphasises employee education and training.

> "We took employee representatives to visit projects that had already adopted the PPP model, so they could see that after the reform, there would be better training opportunities and room for professional development." (R1).

In the subsequent business case development, the implementing agency undertook the following CPs: (a) developed output specifications (CP-7).

> "We put forward requirements for employee training, mainly considering whether employees' skills could meet the needs." (R1)

(b) identified risks and established response plans (CP-8); (c) defined primary revenue sources and developed a preliminary payment mechanism (CP-9). During the operation period, the implementing agency performs annual and interim assessments of the SPV. Failure to provide education and training as required would affect payments; (d) included education and training provisions in the initial contract arrangements (CP-10), established a preliminary monitor framework to ensure the SPV is on the right track (CP-11), and developed a procurement strategy to secure the most goal-aligned partner (CP-12).

In the procurement phase, the implementing agency decided to adopt a comprehensive scoring method to select partners (CP-13) and included specific terms in the draft contract (CP-14). Performance assessment indicators and the quality management system incorporated employee education and training aspects. Subsequently, the private investor

conducted a detailed market investigation (CP-16) to understand training practices in other elderly care institutions. A person-centred operation plan was established (CP-17), including human resource management strategies aligned with employees' core social needs. The implementing agency then selected partners (CP-19) and signed contracts that aligned with the project goals (CP-20).

During the project implementation phase, the SPV drafted the Quality Management System documents (CP-22). The annual operational plan included strategies for employee training. Stakeholder engagement was integral (CP-23), addressing education and training in communications with both the public sector and employees. Most importantly, the SPV provided education and training to employees (CP-26). New employees participated in induction training, while existing employees received ongoing training covering basic caring skills and various specialised training programmes. Meanwhile, various skill competitions and employee star-level certification programmes were also held within the project.

> "We prioritise employee training. We have achieved first place in the Shenzhen Aged Caregivers Vocational Skills Competition for two consecutive years. We have also established a comprehensive training system for medical and nursing staff." (R3)

Finally, the SPV monitored its own outputs (CP-29). Meanwhile, government departments also supervised the project (CP-30) and conducted performance evaluations (CP-31), adjusting payments based on the evaluation results (CP-33), thus ensuring that the SPV meets its contractual obligations.

Figure 2 shows the backcasting process of Indicators 1.3.1 and 1.3.2.

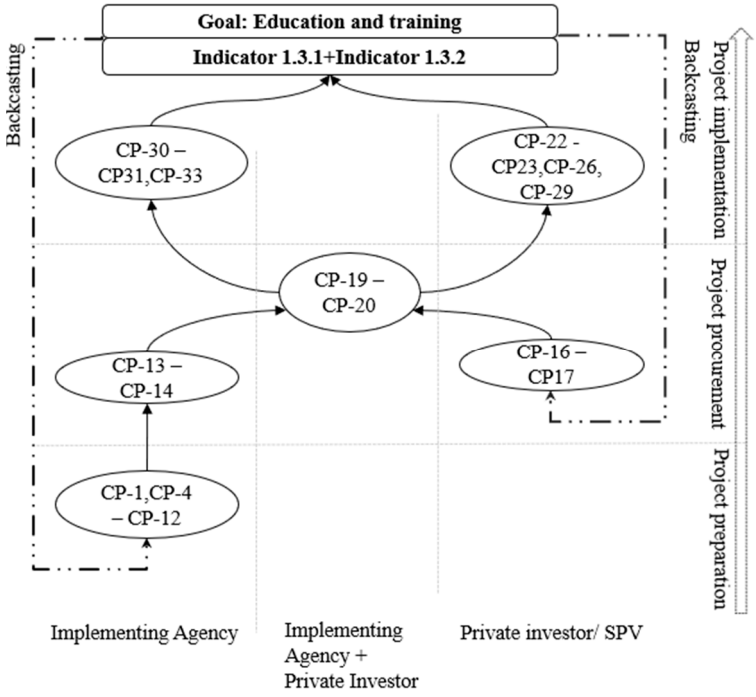


Figure 2. Backcasting the realisation of Indicators of 1.3.1 and 1.3.2.

For brevity, the realisation of indicators related to employee equity and fairness, as well as health and safety, are shown in Figures S1 and S2.

4.2. To Achieve Elderly and Their Relatives Well-Being

Health and comfort is one of the impacts of projects on the well-being of the elderly and their relatives, encompassing the three most important indicators—satisfied basic

needs (Indicator 2.2.1), satisfied health and physical comfort (Indicator 2.2.2), and satisfied psychological comfort (Indicator 2.2.3). The result of Backcasting analysis is shown in Figure 3.

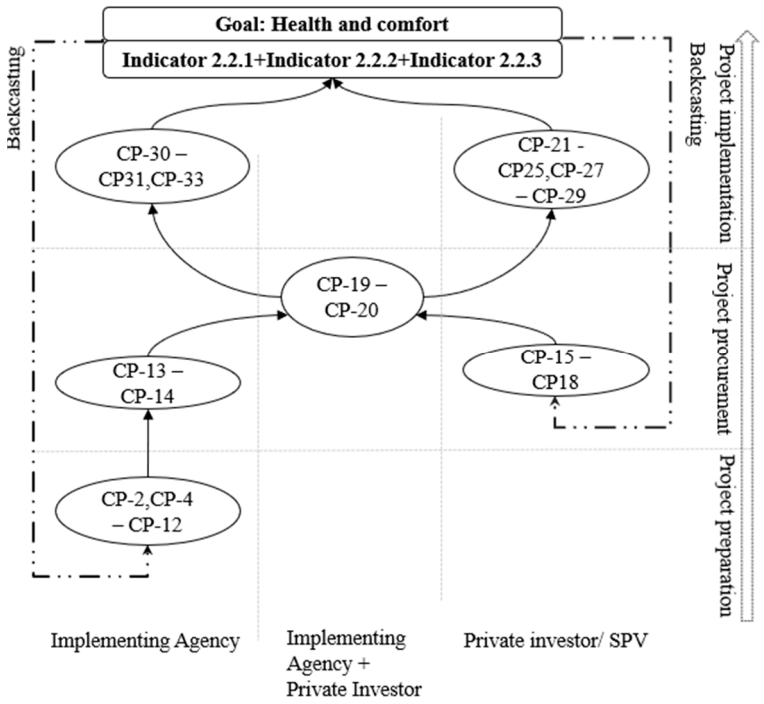


Figure 3. Backcasting the realisation of Indicators of 2.2.1, 2.2.2, and 2.2.3.

Many CPs were adopted in the preparation phase. First, during the feasibility study, the implementing agency initially considered the health and comfort of the elderly (CP-2). Second, the implementing agency selected an appropriate consultant to assist in achieving the goals (CP-4).

> "The three competitors were equally matched in capability, but not all of them paid sufficient attention to elderly care matters. We performed better in this regard." (R1)

The implementing agency then assisted the consultant in conducting an industry investigation (CP-5) and engaging stakeholders (CP-6) to inform the development of a business case focusing on the health and comfort of older people.

> "We investigated the institutions in our city to determine the project's outputs, such as the ratio of caregivers to elderly residents, and what services should be provided." (R1).

In the subsequent development of the business case, the implementing agency adopted the following CPs:

(a) Established output specifications (CP-7). It required the SPV to provide a range of services to meet the needs of all elderly people, regardless of their physical abilities, residency status, financial support, or economic situation.

> "The fees for government-subsidised beds are much lower than those for market-rate beds. To meet the needs of policy-supported elderly, we calculated their number . . .The services include care, meals, security, etc. The first two are core services that the SPV is not allowed to subcontract. . .Elderly people and their families are very concerned about the quality of food, so we set a minimum

standard for the SPV's procurement budget for food ingredients at 800 RMB per month per bed." (R1).

(b) Identified risks and developed response plans (CP-8), allocating design and operational risks related to service quality to the SPV.

(c) Determined the main source of profit—the basic elderly care service fees—and established the initial payment mechanism (CP-9). Basic elderly care service fees refer to bed fees and caring fees.

"We require the SPV to determine the prices before the elderly move in to prevent any reduction in service quality or pressure on residents to purchase additional services." (R1).

(d) Included initial contractual provisions related to the health and comfort of the elderly (CP-10), established a preliminary monitor framework to ensure the SPV stays on the right track (CP-11), and formulated a procurement strategy to secure partners with aligned goals (CP-12). For example, Project X's business case requires the SPV to provide operation and maintenance performance bonds, establish contingency plans, and strictly control changes in equity ownership. Competitive consultation was selected for project procurement.

In the project procurement phase, the public and private sectors adopted the following CPs. First, the implementing agency set evaluation criteria for private investors, giving higher scores to those with experience in similar projects (CP-13), and refined contract terms to prioritise the health and comfort of residents (CP-14). For example, in the performance evaluation plan, assessments of elderly care services provided by the SPV accounted for 60% of the total score.

Second, the private investor adopted several CPs, including prioritising social benefits over profit (CP-15), investigating the social needs of the elderly (CP-16), and establishing a person-centred operational and maintenance plan (CP-17 and CP-18).

"We undertook this project to explore new service areas. We wanted to establish a good reputation and provide high-quality services." (R2)

Finally, the implementing agency selected an appropriate partner (CP-19) and signed the contract (CP-20).

During the implementation phase, the SPV adopted additional CPs, including: (a) defining a vision to build a multi-level elderly care service supply system and enhance the quality of services (CP-21); (b) drafting quality management system documents (CP-22), and setting up complaint management and satisfaction survey systems.

"Residents can lodge complaints within the institution, or externally to the Civil Affairs Bureau, government complaint platforms (12345), or media channels." (R2)

(c) engaging stakeholders to better understand their social needs and perspectives to improve services (CP-23). Project X established multiple channels (such as short video broadcasts and elderly assemblies) for information interaction with the elderly. The SPV and the implementing agency also created a joint meeting system; (d) assuming project operations as contracted (CP-24); (e) providing diverse services as agreed (CP-25); (f) enacting emergency response measures (CP-27); (g) performing facility maintenance as agreed (CP-28); (h) delivering self-monitored outputs (CP-29).

At this stage, the implementing agency and other government departments adopted three CPs: (a) monitored contract implementation (CP-30).

"The District Finance Bureau is evaluating the project, mainly monitoring whether the SPV is fulfilling its contractual obligations." (R3)

(b) conducted performance evaluations (CP-31); (c) made payments based on performance results (CP-33).

Figure S3 and Figure S4, respectively, demonstrate the backcasting realisation of indicators related to equity and accessibility for the elderly and their relatives.

5. Discussions

5.1. Importance of Social Sustainability for PPP Projects

The case study demonstrates that social sustainability is crucial when utilising PPP projects to provide elderly care services. Achieving social sustainability means meeting the social needs of the elderly, their relatives, and employees, ensuring a high quality of life. This is essential for the sustainable development of an aging society [40]. According to [3], projects are not only expected to produce sustainable outputs but are also required to adopt socially sustainable processes.

First, elderly care PPPs should deliver socially sustainable services. The inherent profitability of private investors in PPPs may lead to their lack of genuine focus on satisfying the social needs of service recipients [15]. Project X's public and private sectors identified the social needs of the elderly and translated them into services through a series of practices (CP-2, CP-5 to CP-7, CP-16, CP-17, and CP-23). These practices are supported by prior research. Both government agencies and private investors need to clearly define their requirements at the outset of the project and a lack of clear output specification will cause losses in the future [54]. The introduction of stakeholder engagement facilitates the identification of their social needs and enhances the value of the project [55]. A person-centred care will treat older adults with dignity, contributing to the realisation of their well-being [56].

Second, elderly care PPPs should adopt a socially sustainable process. Research on social sustainability indicates that merely defining the project's goals is insufficient, it is also crucial to focus on how these goals are achieved. In other words, organisations should implement specific actions and procedures when pursuing sustainable development [57]. This case study demonstrates that the delivery of socially sustainable services in Project X relies on a socially sustainable process, involving 33 CPs undertaken by various stakeholders across the project lifecycle. As noted by [35], achieving social sustainability in elderly care PPP projects follows a backcasting process. This involves first establishing the project's goal—social sustainability—and then enabling all participating parties to incrementally adopt CPs [58].

5.2. Potential of Structuring PPP Projects for Social Sustainability

The case study also demonstrates that PPP projects have the potential to achieve social sustainability when properly structured. Existing research indicates that ineffective collaboration due to organisational structure and a lack of dynamic responsiveness to complex issues are common challenges for social sustainability in business organisations [23]. The PPP model helps overcome these challenges.

First, PPPs facilitate the coordination of cross-sector resources and efforts [59]. Such coordination represents a collaborative approach among diverse stakeholders, aiming to achieve desired results with minimal process losses [60]. In Project X, several CPs such as CP-5, CP-6, and CP-11 all reflect the integration of resources such as data and technology between the public and private sectors, as well as among public sector entities. Existing research indicates that, compared to traditional models, PPPs help improve the efficiency of cross-sector coordination [61], directly contributing to the achievement of the United Nations SDGs [62].

Second, PPPs demonstrate inherent flexibility. It manifests in multiple aspects, such as contract flexibility, decision-making flexibility, and product flexibility [63]. Flexibility enables project teams to adapt to changing environments and handle unforeseen events throughout the lifecycle [64]. It may also enhance project performance and value [65]. Take the partner selection of Project X as an example. By establishing a competitive procurement strategy (CP-12) and adopting a comprehensive scoring method (CP-13), it incentivised private investors to contribute more resources, thereby optimising project operations and outputs, and delivering greater social value. Specifically, the bidder's quoted price, technical proposal, and commercial proposal account for 10%, 45%, and 45% of the total score, respectively. The number of government-subsidised beds provided serves as the quoted price, while the highest weightings in the technical and commercial proposals are assigned to the bidder's operational maintenance plan and elderly care service experience, respectively. Competitive mechanism incentivises private investors to conserve public funds and optimise operations. The potential flexibility of PPPs is corroborated by the research of [66]. They found that flexibility enables PPPs to acquire information and expertise from the private sector while securing support from non-market stakeholders.

5.3. Synthesising Prescriptive Theorising with Backcasting to Support PPPs for Social Sustainability

Having elaborated on the importance of social sustainability and the potential of PPPs, we now shift our focus to discuss how to better support PPPs in achieving this goal. Our research demonstrates the power of synthesising prescriptive theorising with backcasting.

Prescriptive theorising guided this study in clearly articulating the ideal outputs of elderly care PPPs and providing CPs to achieve them. It is primarily used to address normative ("how things should be") and instrumental ("how to achieve them") questions, aiming to actively generate desired outputs by steering social actions toward alternative states [45]. As both a theoretical paradigm and practical tool, prescriptive theorising has been applied in management research [47]. Following [45], this study implemented prescriptive theorising through two steps: defining/justifying specific goals and defining/justifying the means to achieve them. Social sustainability is established as the goals for the selected case, with CPs identified.

Furthermore, the backcasting method serves as a transformative mechanism, which has successfully traced, through case study, the specific realisation paths for phased adoption of 33 CPs to achieve 21 social sustainability indicators. Due to its normative, goal-oriented, and problem-solving characteristics, backcasting is particularly suited to addressing long-term urban challenges and formulating sustainable solutions [67]. It has now become a widely adopted research approach for tackling sustainability challenges and driving transformative change [68]. The method enables researchers and practitioners to systematically integrate fragmented knowledge and tailor approaches to specific projects [69].

The synthesis of prescriptive theorising with backcasting can better support PPPs in achieving goals. In this study, the former guides the identification of 21 social sustainability indicators and 33 CPs, providing a normative framework. The latter connects the indicators, CPs, and project processes to design reverse pathways. Figure 4 illustrates this synthesis. The two yellow concentric circles at the center represent the contributions of prescriptive theorising, while the three green concentric circles surrounding them denote the contributions of backcasting. The orange and dark green dashed arrows, respectively, signify the guidance from prescriptive theorising to backcasting and the supportive feedback from backcasting to prescriptive theorising.

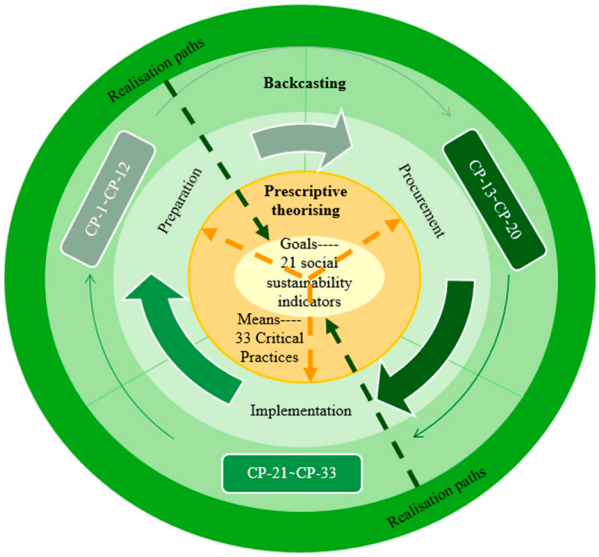


Figure 4. Prescriptive theorising—backcasting synthesis.

6. Conclusions and Limitations

The case study suggests that achieving social sustainability in elderly care PPPs requires backcasting from established goals, representing a socially sustainable development process. Social sustainability should be the ultimate goal, symbolising a state of success. The backcasting method helps achieve the goal by requiring the public sector, private investors, and the SPV to adopt a series of CPs at different stages and phases of the life cycle.

This study discusses the importance of social sustainability for PPPs and the potential to structure them to achieve it. PPPs' cross-sector coordination capabilities and flexibility enable them to attain these objectives. This paper further examines supportive approaches to better assist PPPs in achieving their goals—specifically, the synthesis of prescriptive theorising and backcasting. These two exhibit a complementary and progressive relationship of theoretical guidance and practical feedback in supporting PPPs to achieve their goals.

The research findings contribute to a deeper understanding of optimising PPPs to address complex social issues. While the indicator framework and realisation paths were proposed in the authors' prior work, this paper's novel contribution lies in demonstrating the process, potential, and approach of achieving social sustainability through PPPs. This provides valuable insights for other developing countries or emerging economies considering PPPs to address social challenges, particularly in elderly care service provision. The research findings help public and private sectors refine policies, strengthen governance, and enhance the long-term sustainability of elderly care PPPs. The contributions extend beyond the elderly care sector, highlighting the broad applicability of social sustainability-oriented PPP models in tackling global social challenges.

This study has four limitations.

- First, it examines a single successful case in China. This may limit the identification of CP and the analysis of processes, as challenges or failures in other PPPs, along with local contextual factors, are overlooked.
- Second, the case has a brief operation history, limiting the long-term validation of the PPP model's potential in achieving social sustainability.
- Third, only three respondents—all senior managers—were interviewed. The absence of input from employees, elderly and their relatives, local community and society may result in insufficient data collection and biased outcomes.
- Fourth, this study did not establish a backcasting process for indicators related to local community and society. Although supplementary interviews revealed that

respondents intended to initiate relevant practices, these had not been implemented by the time of the interviews. This omission weakens the study's argument regarding the achievement of social sustainability for this key interested party.

Future research could consider selecting multiple cases or conducting cross-country and cross-industry comparisons. This will enhance the generalisability of the findings. Involving diverse stakeholders will help achieve a more comprehensive perspective and well-rounded outcomes. Additionally, conducting longitudinal studies on individual cases is also recommended.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/buildings15173202/s1, Figure S1: Backcasting the realisation of Indicators of 1.1.1 and 1.1.2; Figure S2: Backcasting the realisation of Indicators of 1.2.1 and 1.2.2; Figure S3: Backcasting the realisation of Indicators of 2.1.1 and 2.1.2; Figure S4: Backcasting the realisation of Indicators of 2.3.1, 2.3.2, and 2.3.3.

Author Contributions: Conceptualization, K.W.; methodology, Y.K.; validation, Y.K.; formal analysis, K.W.; investigation, K.W.; resources, Y.K.; writing—original draft preparation, K.W.; writing—review and editing, Y.K. and S.S.; supervision, S.S.; funding acquisition, K.W. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by Zhejiang Office of Philosophy and Social Science, grant number: 24NDJC062YB.

Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors on request.

Conflicts of Interest: The authors declare no conflicts of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

Appendix A

Here are the thirty-three CPs adopted by Project X. For supporting information used to identify them, such as the purpose or intent of a CP and its consequences or impacts, please refer to [35].

CP-1: The Implementing Agency Gives Initial Consideration to Employees Well-being at the Feasibility Stage
CP-2: The Implementing Agency Gives Initial Consideration to Elderly and Their Relatives Well-being at the Feasibility Stage
CP-3: The Implementing Agency Gives Initial Consideration to Local Community and Society Well-being at the Feasibility Stage
CP-4: The Implementing Agency Selects Consultant Who Contribute to Social Sustainability
CP-5: The Implementing Agency Assists the Consultants in the Investigation
CP-6: The Implementing Agency Introduces Stakeholder Engagement
CP-7: The Implementing Agency Develops Output Specification
CP-8: The Implementing Agency Identifies Risks and Establishes Response Plans
CP-9: The Implementing Agency Determines the Main Source of Profit, and Outlines a Preliminary Payment Mechanism
CP-10: The Implementing Agency Initiates Consideration of Contractual Arrangements
CP-11: The Implementing Agency Establishes a Preliminary Monitor Framework to Govern the SPV's Conduct
CP-12: The Implementing Agency Defines the Optimal Procurement Strategy for the Required Outputs

CP-13: The Implementing Agency Adopts a Comprehensive Scoring Method for Partner Selection
CP-14: The Implementing Agency Sets the Terms of the Draft Contract
CP-15: The Private Investors Set the Goal of Participating in a Project
CP-16: The Private Investors Conduct Detailed Market Investigation
CP-17: The Private Investors Establish Person-Centred Overall Operation Schemes
CP-18: The Private Investors Establish Facility Maintenance Scheme
CP-19: The Implementing Agency Selects Appropriate Partner
CP-20: The Implementing Agency Signs PPP Contracts with the Winning Private Investor
CP-21: The SPV Articulates Its Vision or Mission
CP-22: The SPV Drafts Quality Management System Documents
CP-23: The SPV Conducts Stakeholder Engagement
CP-24: The SPV Takes Over the Project as Agreed
CP-25: The SPV Offers Varied Services to the Elderly, as Contracted
CP-26: The SPV Implements Effective Human Resource Management for its Employees, as Agreed
CP-27: The SPV Provides Contingency Response for Emergencies
CP-28: The SPV Carries out Facility Maintenance in Accordance with the Agreement
CP-29: The SPV Conducts Internal Monitoring of Outputs
CP-30: The Implementing Agency and other Government Departments Monitor Contract Implementation
CP-31: The Implementing Agency Evaluates Performance
CP-32: The Implementing Agency Discloses Information Public
CP-33: The Implementing Agency Makes Performance-based Payments to the SPV

Table A1. The correspondence among CPs, implementation timing, and adopters.

Life Cicle / Adopter	Project Preparation	Project Procurement	Project Implementation
The Implementing Agency	CP-1 CP-2 CP-3 CP-4 CP-5 CP-6 CP-7 CP-8 CP-9 CP-10 CP-11 CP-12	CP-13 CP-14 CP-19 CP-20	CP-30 CP-31 CP-32 CP-33
The Private Investor		CP-15 CP-16 CP-17 CP-18 CP-19 CP-20	
The SPV			CP-21 CP-22 CP-23 CP-24 CP-25 CP-26 CP-27 CP-28 CP-29

References

1. Wang, L.; Sun, Y.; Tiong, R.L.K. Institutional quality configuration for encouraging private capital participation in PPP projects: Evidence from 36 belt and road countries. *Int. J. Manag. Proj. Bus.* **2024**, *17*, 898–922. [CrossRef]
2. Cheng, Z.; Ke, Y.; Yang, Z.; Cai, J.; Wang, H. Diversification or convergence: An international comparison of PPP policy and management between the UK, India, and China. *Eng. Constr. Archit. Manag.* **2020**, *27*, 1315–1335. [CrossRef]
3. Silvius, G.; Huemann, M. *Research Handbook on Sustainable Project Management*; Edward Elgar Publishing: Cheltenham, UK, 2024.
4. Hancock, L.; Ralph, N.; Ali, S.H. Bolivia's lithium frontier: Can public private partnerships deliver a minerals boom for sustainable development? *J. Clean. Prod.* **2018**, *178*, 551–560. [CrossRef]
5. Cheng, M.; Liu, G.; Xu, Y. Can joint-contract functions promote PPP project sustainability performance? A moderated mediation model. *Eng. Constr. Archit. Manag.* **2021**, *28*, 2667–2689. [CrossRef]

6. Tian, B.; Wang, Z.; Li, C.; Fu, J. Can relational governance improve sustainability in public-private partnership infrastructure projects? An empirical study based on structural equation modeling. *Eng. Constr. Archit. Manag.* **2023**, *30*, 19–40. [CrossRef]
7. Ke, Y.; Cheng, Z.; Zhang, J.; Liu, Y. Making sense of the definition of public-private partnerships. *Built Environ. Proj. Asset Manag.* **2024**, *14*, 4–21. [CrossRef]
8. Eurodad. *History RePPPeated—Why Public-Private Partnerships Are Not the Solution*; European Network on Debt and Development: Brussels, Belgium, 2022.
9. Clegg, S.R.; Ke, Y.; Devkar, G.; Mangioni, V.; Sankaran, S. *Handbook on Public–Private Partnerships in International Infrastructure Development: A Critical Perspective*; Edward Elgar Publishing: Cheltenham, UK, 2024.
10. Valdes-Vasquez, R.; Klotz, L.E. Social Sustainability Considerations during Planning and Design: Framework of Processes for Construction Projects. *J. Constr. Eng. Manag.* **2013**, *139*, 80–89. [CrossRef]
11. Sierra, L.A.; Pellicer, E.; Yepes, V. Social sustainability in the lifecycle of Chilean public infrastructure. *J. Constr. Eng. Manag.* **2016**, *142*, 05015020. [CrossRef]
12. Li, Y.; He, N.; Li, H.; Zhang, Y. Sustainability assessment of urban water public-private partnership projects with environmental, social, and governance (ESG) criteria. *J. Am. Water Resour. Assoc.* **2024**, *60*, 1209–1227. [CrossRef]
13. Barker, J.; Xia, B.; Zou, J.; Zillante, G. Sustainable retirement living: What matters? *Australas. J. Constr. Econ. Build. Conf. Ser.* **2012**, *12*, 56–61. [CrossRef]
14. Liang, Y.; Wang, H. Sustainable Performance Measurements for Public–Private Partnership Projects: Empirical Evidence from China. *Sustainability* **2019**, *11*, 3653. [CrossRef]
15. Wang, K.; Ke, Y.; Liu, T.; Sankaran, S. Social sustainability in Public–Private Partnership projects: Case study of the Northern Beaches Hospital in Sydney. *Eng. Constr. Archit. Manag.* **2022**, *29*, 2437–2460. [CrossRef]
16. Kordi, N.E.; Belayutham, S.; Che Ibrahim, C.K.I. Mapping of social sustainability attributes to stakeholders' involvement in construction project life cycle. *Constr. Manag. Econ.* **2021**, *39*, 513–532. [CrossRef]
17. Goel, A.; Ganesh, L.S.; Kaur, A. Benefits formulation in construction projects: An exploratory study through a social sustainability perspective. *IIM Kozhikode Soc. Manag. Rev.* **2020**, *9*, 162–176. [CrossRef]
18. Thomas, R.; Darby, J.L.; Dobrzykowski, D.; Hoek, R. Decomposing social sustainability: Signaling theory insights into supplier selection decisions. *J. Supply Chain Manag.* **2021**, *57*, 117–136. [CrossRef]
19. Yıldız, S.; Kıvrak, S.; Gültekin, A.B.; Arslan, G. Built environment design—Social sustainability relation in urban renewal. *Sustain. Cities Soc.* **2020**, *60*, 102173. [CrossRef]
20. Wang, M.; Zhao, J.; Zhang, D.; Xiong, Z.; Sun, C.; Zhang, M.; Fan, C. Assessing urban vitality in high-density cities: A spatial accessibility approach using POI reviews and residential data. *Humanit. Soc. Sci. Commun.* **2025**, *12*, 1119. [CrossRef]
21. Olmsted, J.C. Care labor, intergenerational equity, and (social) sustainability. *Rev. Soc. Econ.* **2024**, *82*, 51–75. [CrossRef]
22. Rostamnezhad, M.; Nasirzadeh, F.; Khanzadi, M.; Mohammad Jafar, J.; Ghayoumian, M. Modeling social sustainability in construction projects by integrating system dynamics and fuzzy-DEMATEL method: A case study of highway project. *Eng. Constr. Archit. Manag.* **2020**, *27*, 1595–1618. [CrossRef]
23. Missimer, M.; Mesquita, P.L. Social sustainability in business organizations: A research agenda. *Sustainability* **2022**, *14*, 2608. [CrossRef]
24. Silvius, G.; Schipper, R.; Planko, J.; van den Brink, J.; Planko, M.J.; Dalcher, P.D. *Sustainability in Project Management*; Routledge: Farnham, UK, 2017.
25. Hueskes, M.; Verhoest, K.; Block, T. Governing public-private partnerships for sustainability: An analysis of procurement and governance practices of PPP infrastructure projects. *Int. J. Proj. Manag.* **2017**, *35*, 1184–1195. [CrossRef]
26. Benítez-Ávila, C.; Hartmann, A.; Dewulf, G. Contractual and Relational Governance as Positioned-Practices in Ongoing Public–Private Partnership Projects. *Proj. Manag. J.* **2019**, *50*, 716–733. [CrossRef]
27. Feng, G.; Hao, S.; Li, X. Project Sustainability and Public-Private Partnership: The Role of Government Relation Orientation and Project Governance. *Sustainability* **2022**, *14*, 4724. [CrossRef]
28. Li, H.; Wang, F.; Zhang, C.; Wang, L.; An, X.; Dong, G. Sustainable supplier selection for water environment treatment public-private partnership projects. *J. Clean. Prod.* **2021**, *324*, 129218. [CrossRef]
29. Iwuagwu, A.O.; Poon, A.W.C.; Fernandez, E. A scoping review of barriers to accessing aged care services for older adults from culturally and linguistically diverse communities in Australia. *BMC Geriatr.* **2024**, *24*, 805. [CrossRef] [PubMed]
30. Wang, K.; Ke, Y.; Sankaran, S.; Xia, B. Problems in the home and community-based long-term care for the elderly in China: A content analysis of news coverage. *Int. J. Health Plan. Manag.* **2021**, *36*, 1727–1741. [CrossRef]
31. Osei-Kyei, R.; Tam, V.; Ma, M. Effective strategies for developing retirement village public—Private partnership. *Int. J. Hous. Mark. Anal.* **2021**, *14*, 821–841. [CrossRef]
32. Osei-Kyei, R.; Tam, V.; Ma, M. Risk Assessment of Retirement Village Public-Private Partnership Homes. *J. Aging Environ.* **2021**, *36*, 289–303. [CrossRef]

33. Osei-Kyei, R.; Narbaev, T.; Atafo-Adabre, M.; Chileshe, N.; Ofori-Kuragu, J.K. Critical success criteria for retirement village public—Private partnership housing. *Constr. Innov.* **2023**, *23*, 1018–1037. [CrossRef]
34. Zhang, J.; Chan, W.K. Public–private partnership in care provision for ageing-in-place: A comparative study in Guangdong, China. *Australas. J. Ageing* **2023**, *42*, 90–97. [CrossRef]
35. Wang, K.; Ke, Y.; Sankaran, S. Social sustainability of aged care public-private partnership projects in China: Critical practices and realisation paths. *J. Clean. Prod.* **2023**, *422*, 138644. [CrossRef]
36. Lin, L.; Zhang, L.; Geng, S.; Zhao, Y.; Tian, Y. Research on Multi-Stage Post-Occupancy Evaluation Framework of Community Comprehensive Elderly Care Service Facilities under the Public-Private Partnership Mode—A Case Study of China. *Buildings* **2024**, *14*, 1343. [CrossRef]
37. Wang, K.; Ke, Y.; Sankaran, S. The social pillar of sustainable development: Measurement and current status of social sustainability of aged care projects in China. *Sustain. Dev.* **2024**, *32*, 227–243. [CrossRef]
38. Wang, K.; Ke, Y.; Sankaran, S. How Socially Sustainable Is the Institutional Care Environment in China: A Content Analysis of Media Reporting. *Buildings* **2024**, *14*, 2953. [CrossRef]
39. Hu, X. Social sustainability of continuing care retirement communities in China. *Facilities* **2023**, *41*, 819–838. [CrossRef]
40. Wang, K.; Ke, Y. Towards sustainable development: Assessing social sustainability of Australian aged care system. *Sustain. Dev.* **2024**, *32*, 7186–7200. [CrossRef]
41. Xia, B.; Chen, Q.; Buys, L.; Skitmore, M.; Walliah, J. Sustainable living environment in retirement villages: What matters to residents? *J. Aging Environ.* **2021**, *35*, 370–384. [CrossRef]
42. Xia, B.; Zuo, J.; Skitmore, M.; Chen, Q.; Rarasati, A. Sustainable retirement village for older people: A case study in Brisbane, Australia. *Int. J. Strateg. Prop. Manag.* **2015**, *19*, 149–158. [CrossRef]
43. Skalicky Klemenčič, V.; Žegarac Leskovar, V. Towards Inclusive and Resilient Living Environments for Older Adults: A Methodological Framework for Assessment of Social Sustainability in Nursing Homes. *Buildings* **2025**, *15*, 2501. [CrossRef]
44. Zhang, W. Market-Oriented Policies on Care for Older People in Urban China: Examining the Experiment-Based Policy Implementation Process. *J. Soc. Policy* **2022**, *51*, 284–302. [CrossRef]
45. Hanisch, M. Prescriptive Theorizing in Management Research: A New Impetus for Addressing Grand Challenges. *J. Manag. Stud.* **2024**, *61*, 1692–1716. [CrossRef]
46. Wickert, C. Prescriptive Theorizing to Tackle Societal Grand Challenges: Promises and Perils. *J. Manag. Stud.* **2024**, *61*, 1683–1691. [CrossRef]
47. George, G.; Howard-Grenville, J.; Joshi, A.; Tihanyi, L. Understanding and tackling societal grand challenges through management research. *Acad. Manag. J.* **2016**, *59*, 1880–1895. [CrossRef]
48. Flyvbjerg, B. Five Misunderstandings About Case-Study Research. *Qual. Inq.* **2006**, *12*, 219–245. [CrossRef]
49. Central Committee of the Communist Party. *State Council, Opinions on Supporting Shenzhen in Building a Pilot Demonstration Zone of Socialism with Chinese Characteristics*; Central Committee of the Communist Party: Beijing, China, 2019.
50. Zheng, X.; Lu, K.; Yan, B.; Li, M. Current Situation of Public Private Partnership Development for the Elderly in China. *Open J. Soc. Sci.* **2020**, *8*, 165–179. [CrossRef]
51. Bott, G.; Tourish, D. The critical incident technique reappraised: Using critical incidents to illuminate organizational practices and build theory. *Qual. Res. Organ. Manag.* **2016**, *11*, 276–300. [CrossRef]
52. Missimer, M.; Robèrt, K.H.; Broman, G.; Sverdrup, H. Exploring the possibility of a systematic and generic approach to social sustainability. *J. Clean. Prod.* **2010**, *18*, 1107–1112. [CrossRef]
53. U.S. Department of Transportation. *Public-Private Partnership (P3) Procurement: A Guide for Public Owners*; U.S. Department of Transportation: Washington, DC, USA, 2019.
54. European PPP Expertise Centre. *The Guide to Guidance: How to Prepare, Procure and Deliver PPP Projects*; European Investment Bank: Luxembourg, 2011.
55. Keeys, L.A.; Huemann, M. Project benefits co-creation: Shaping sustainable development benefits. *Int. J. Proj. Manag.* **2017**, *35*, 1196–1212. [CrossRef]
56. Hu, X.; Nakayama, T. Empirical Research on the Life Satisfaction and Influencing Factors of Users of Community-Embedded Elderly Care Facilities. *Buildings* **2025**, *15*, 894. [CrossRef]
57. Sellitto, M.A.; Camfield, C.G.; Buzuku, S. Green innovation and competitive advantages in a furniture industrial cluster: A survey and structural model. *Sustain. Prod. Consum.* **2020**, *23*, 94–104. [CrossRef]
58. Quist, J.N. *Backcasting for a Sustainable Future: The Impact After 10 Years*; Eburon Academic Publishers: Delft, The Netherlands, 2007.
59. Doh, J.P.; Tashman, P.; Benischke, M.H. Adapting to Grand Environmental Challenges Through Collective Entrepreneurship. *Acad. Manag.* **2019**, *33*, 450–468. [CrossRef]
60. Trauernicht, N.; Braaksma, J.; Haanstra, W.; van Dongen, L.A.M. The Impacts on Interorganizational Project Coordination: A Multiple Case Study on Large Railway Projects. *Proj. Manag. J.* **2024**, *56*, 214–232. [CrossRef]

61. Engel, E.; Fischer, R.D.; Galetovic, A. *The Economics of Public-Private Partnerships: A Basic Guide*; Cambridge University Press: Cambridge, UK, 2014.
62. World Bank. *Procuring Infrastructure Public-Private Partnerships Report 2018: Assessing Government Capability to Prepare, Procure, and Manage PPPs*; World Bank: Washington, DC, USA, 2018.
63. Demirel, H.Ç.; Leendertse, W.; Volker, L.; Hertogh, M. Flexibility in PPP contracts–Dealing with potential change in the pre-contract phase of a construction project. *Constr. Manag. Econ.* **2017**, *35*, 196–206. [CrossRef]
64. Eriksson, P.E.; Larsson, J.; Pesämaa, O. Managing complex projects in the infrastructure sector—A structural equation model for flexibility-focused project management. *Int. J. Proj. Manag.* **2017**, *35*, 1512–1523. [CrossRef]
65. Swanson, R.; Sakhrani, V. Appropriating the Value of Flexibility in PPP Megaproject Design. *J. Manag. Eng.* **2020**, *36*, 05020010. [CrossRef]
66. Wang, Y.; Kwak, Y.H.; Cui, Q. The Power(lessness) of Flexibility in Public–Private Partnerships: Two Capital Projects From the National Capital Region. *Proj. Manag. J.* **2024**, *55*, 650–667. [CrossRef]
67. Bibri, S.E. A methodological framework for futures studies: Integrating normative backcasting approaches and descriptive case study design for strategic data-driven smart sustainable city planning. *Energy Inform.* **2020**, *3*, 31. [CrossRef]
68. Nogués, S.; González-González, E.; Stead, D.; Cordera, R. Planning policies for the driverless city using backcasting and the participatory Q-Methodology. *Cities* **2023**, *142*, 104535. [CrossRef]
69. Kishita, Y.; Höjer, M.; Quist, J. Consolidating backcasting: A design framework towards a users' guide. *Technol. Forecast. Soc. Change* **2024**, *202*, 123285. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.