

## Bridging ‘Stakeholder Value Creation’ and ‘Urban Sustainability’: The need for better integrating the Environmental Dimension

Donizete Beck <sup>a,b,\*</sup>, Marcos Ferasso <sup>c,d</sup>

<sup>a</sup> School of Political Science, the University of Haifa, Haifa, Haifa District, Israel

<sup>b</sup> Graduate School of Administration, Nove de Julho University, São Paulo City, São Paulo State, Brazil

<sup>c</sup> Economics and Business Sciences Department, Universidade Autónoma de Lisboa, Lisbon, Portugal

<sup>d</sup> Facultad de Administración y Negocios, Universidad Autónoma de Chile, Santiago, Chile



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### ABSTRACT

Stakeholder-orientation is critical to fostering sustainable urban development through synergic collaborations among urban stakeholders. However, although Stakeholder Value Creation (SVC) has been widely explored in sustainable organizations, little attention has been given to SVC in Urban Sustainability. Thus, this research explored the conceptual connections between SVC and Urban Sustainability using a new methodological protocol based on a Sequential Mixed Method Research design. The main findings revealed that the social, economic, and institutional dimensions of Urban Sustainability are fully integrated into the SVC framework; however, better integration of the Environmental Dimension is needed. Therefore, this dyadic phenomenon can currently be classified as unsustainable or weak sustainability. Additionally, the critical characteristics of SVC with Urban Sustainability are: stakeholder engagement; stakeholder cooperation; ethics of capitalism; satisfaction of stakeholders' needs by self-organization and learning capacities; diversity, trust, common meaning, and consensus; sustainable economic development; innovation ecosystems; sharing economy; circular economy; technical resources; social capital; smart sustainable cities; and energy efficiency. Finally, we proposed a framework for Sustainable SVC in Cities, in which SVC is a means for achieving Urban Sustainability and better integrating the environmental dimension. Environmental issues, environmental management, social entrepreneurship, non-human stakeholders, and stakeholder proximity are promising perspectives in the framework.

### 1. Introduction

With the world becoming more urbanized, the networks of urban stakeholders and Urban Sustainability concerns have been critical phenomena addressed in Urban Studies and by practitioners (James, 2014; Keivane, 2009; Fotino et al., 2018; Kankaala et al., 2018; Beck & Storopoli, 2021). In this context, *Stakeholder Value Creation* (SVC) is an essential theoretical construct of Stakeholder Theory since the main purpose of stakeholder-oriented management is meeting stakeholder needs (Freeman et al., 2010; Bridoux & Stoelhorst, 2014; Tantalo & Priem, 2014), as occurring in urban management (Beck & Storopoli, 2021).

Meeting stakeholder needs is also essential for all dimensions of Urban Sustainability (Beck & Storopoli, 2021). *Urban Sustainability* has four main dimensions: social, economic, environmental, and

institutional (Grafakos et al., 2016; Michalina et al., 2021; Ataman & Tuncer, 2022). The literature has largely shown that the social and environmental dimensions have the most challenging issues to overcome at the city level (Marcuse, 1998; Davidson, 2010; James, 2014; Howes et al., 2017). Accordingly, fostering Urban Sustainability is challenging, and the current urban paradigms have been *unsustainable* or with *weak sustainability* (Pearce & Atkinson, 1993; Gutés, 1996; Ayres et al., 2001; Biely et al., 2018; Michalina et al., 2021).

SVC and sustainability can become new avenues to meet stakeholders' needs. Urban Sustainability is an additional path by which society can meet stakeholders' needs through SVC (Beck & Storopoli, 2021). Urban Sustainability is even more important to be stressed under these themes because stakeholders, governments, civil society, industry, and citizens create value at the local level. Therefore, urban governance should strategize policies to address socioeconomic and environmental

\* Corresponding author at: University of Haifa, Abba Khoushy Ave 199, Haifa, District of Haifa, Israel, 3498838.

E-mail addresses: [dferreira@campus.haifa.ac.il](mailto:dferreira@campus.haifa.ac.il), [donizetebeck@uni9.edu.br](mailto:donizetebeck@uni9.edu.br), [doni@beck.science](mailto:doni@beck.science) (D. Beck), [mferasso@autonomia.pt](mailto:mferasso@autonomia.pt), [marcos.ferasso@uautonoma.cl](mailto:marcos.ferasso@uautonoma.cl), [admmarcosferasso@gmail.com](mailto:admmarcosferasso@gmail.com) (M. Ferasso).

impacts and provide solutions by creating sustainable value for all urban stakeholders (Beck & Storopoli, 2021).

On the one hand, Business and Economics Literature have in-depth explored the conceptual connections between SVC and sustainability in businesses and organizations (Gray, 2006; Mauerhofer, 2008; Lubin & Esty, 2010; Iazzolino & Laise, 2016; Freudenreich et al., 2020). On the other hand, SVC is still uncovered in Urban Studies literature, such as in the urban governance context (Kankaala et al., 2018; Beck & Storopoli, 2021). For this reason, there are three theoretical gaps: first, it is unclear the conceptual connections between SVC and Urban Sustainability; second, it is unclear how the Urban Sustainability dimensions interplay among themselves; and third, how these interactions could be classified in Sustainability Science. Therefore, the *research purpose* is to explore the conceptual connections between SVC and Urban Sustainability.

By exploring this dyadic phenomenon, we revealed: first, the *heterogenous aspects and the most important aspects* of the conceptual connections between SVC and Urban Sustainability; second, the *complex interactions among each dimension of Urban Sustainability with each other*; and third, we classified the current status of this dyadic phenomenon in light of the two dilemmas of *Sustainability Science* for classifying paradigms: on the one hand, *strong sustainability versus weak sustainability*; on the other hand, *sustainable versus unsustainable*.

This research contributes to the field in many ways. It unfolds the Urban Studies literature's relationships between SVC and sustainability in cities. It also explores the theoretical connections between the said themes and proposes a future research agenda. Additionally, this study applies a new *Mixed Method Research (MMR) protocol* (Cross-network Information Analysis) to explore dyadic phenomena, such as the dyadic phenomenon explored here, i.e., the conceptual connections between SVC and Urban Sustainability. This study also presents an original and robust integration of findings (meta-inference) by identifying and detailing the conceptual connections between SVC and all dimensions of Urban Sustainability. Finally, this research also presents an original framework for Sustainable SVC in Cities, in which *SVC is a means for achieving Urban Sustainability* and promising perspectives.

This manuscript is structured as follows. Beyond this introduction, a theoretical background revisits the main constructs of Stakeholder Theory in cities and Urban Sustainability. The research design section presents the data collection procedures and the research protocol. Results are presented in Section 4, where the qualitative and quantitative analyses are detailed, then summarized into the respective inferences. This section closes with the meta-inference results. In the discussion section, all the findings are interpreted and based on creating a framework with propositions. Finally, this paper ends with a conclusion section and lists the references.

## 2. Theoretical background

This section is unfolded in two subsections: the first provides an overview of the developments in *Stakeholder Theory in cities* and concludes with the research gap contextualization; the second presents the main theoretical advancements and critical concepts for understanding *Urban Sustainability*.

### 2.1. Stakeholder Theory in cities

Creating value for stakeholders is the cornerstone of *Stakeholder Theory* (Freeman et al., 2010; Bridoux & Stoelhorst, 2014; Tantalo & Priem, 2014), highlighting the importance of varied types of organizations satisfying the needs and meeting the expectations of stakeholders. In other words, *stakeholder-orientation* is the basis of modern organizational strategic management. In this rationale, SVC is "... the sum of all the valuation estimates made by each of that system's essential stakeholder groups for the multiple utilities they receive from participation in the system..." of organizations (Tantalo & Priem, 2014, p. 317).

*Stakeholder Theory* is a multidisciplinary and interdisciplinary theory

that elucidates the significance of ethical practices in management (Harrison et al., 2015). This theory has contributed to setting stakeholder-orientation not only in 'Business Administration' and 'Public Administration' fields (Bryson, 2004; Freeman et al., 2010; Harrison et al., 2015) but also in 'Urban Studies' such as in the context of cities and urban management (Fainstein, 2000; Beck & Storopoli, 2021).

The *main strict definition of stakeholder* is who/which has the salience attributes of power, urgency, legitimacy, and proximity and simultaneously is affected or affects the accomplishment of the goals of an organization (Freeman, 1984; Mitchell et al., 1997; Driscoll & Starik, 2004; Freeman et al., 2010). In urban management and cities, the classification of urban stakeholders involves who/which has these characteristics toward the goals of municipalities, city administration, and in a few cases, even the whole body of urban governance (Beck & Storopoli, 2021).

Also, even municipalities and civil servants are stakeholders in urban management because they can affect or affect their policies (Beck & Storopoli, 2021). In the urban scenario, the main urban stakeholders are the citizens, governments, industries, tourists, non-governmental organizations (NGOs), civil society, and the academic network (Beck & Storopoli, 2021). Thus, identifying and managing policies for meeting stakeholder needs is at the core of strategic organizational management (Freeman et al., 2010), which is useful for businesses, governments, NGOs, and many other organizational types (Harrison et al., 2015). Therefore, it is crucial to understand the stakeholder concept since we explored the conceptual connections between SVC and Sustainability in the urban context.

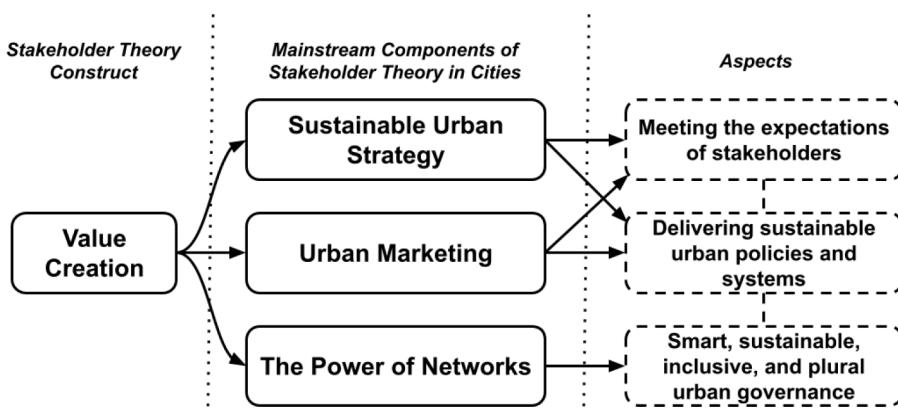
According to the seminal work of Beck and Storopoli (2021), SVC is present in the three mainstream components of Stakeholder Theory in cities: 'Sustainable Urban Strategy'; 'Power of Networks'; and 'Urban Marketing.' In 'Sustainable Urban Strategy' and 'Urban Marketing,' SVC occurs when the urban management meets the *expectations of stakeholders* and delivers *sustainable urban policies and systems*. In the 'Power of Networks,' SVC arises from a smart, sustainable, inclusive, and plural governance. Fig. 1 illustrates the aspects of SVC in cities and urban management through the lens of Stakeholder Theory.

The bottom line is that *SVC and sustainability* are mutually crucial for cities. Indeed, an in-depth investigation of these two lenses combined in urban management must be done. One the one hand, cities are vital in the SVC ecosystem since they are based on stakeholders from the public realm interests: "The role of the cities is very important in this ecosystem value creation as they are considered to be a neutral body with focus on the public interest, not a vested one" (Kankaala et al., 2018, p. 108). Also, SVC "... results in better urban governance" by fostering democratic values in urban management (Beck & Storopoli, 2021, p. 7). On the other hand, unlike 'Business and Economics' Literature, Urban Studies literature is underdeveloped on *how value creation and sustainability* converge in the context of cities. For this reason, this research intends to fulfill this gap by unfolding the existing conceptual links between SVC and Urban Sustainability.

The following subsection presents the main elements of Urban Sustainability for better contextualization and identifies the main elements of Urban Sustainability, which are critical for exploring the conceptual connections between SVC and Urban Sustainability.

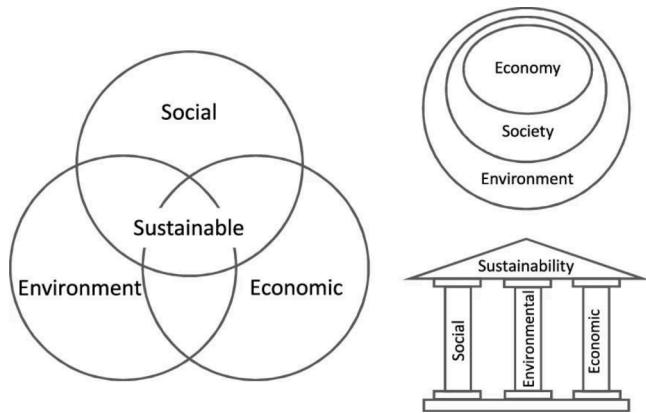
### 2.2. Urban Sustainability

*Sustainability* is an open concept applied to multiple contexts and with many interpretations, which has mainly been approached in terms of the social, economic, and environmental dimensions, as seen in Fig. 2 (Purvis et al., 2019). These dimensions *interact* among themselves (Purvis et al., 2019), and their foci are *equally crucial* in sustainability: the *social dimension* focuses on the satisfaction of human needs (Missimer et al., 2017a; Missimer et al., 2017b; Purvis et al., 2019), requiring aspects as "... trust, common meaning, diversity, capacity for learning and capacity for self-organization" (Missimer et al., 2017a, p. 7); the



**Fig. 1.** SVC in Cities through the lens of Stakeholder Theory.

Note: Created based on "Cities through the lens of Stakeholder Theory: A literature review," by D. Beck, and J. Storopoli, 2021, *Cities*, 184, 103377, p. 7. Copyright 2021 by Elsevier.



**Fig. 2.** Left, typical representation of sustainability as three intersecting circles. Right, alternative depictions: literal 'pillars' and a concentric circles approach.

Note: From "Three pillars of sustainability: in search of conceptual origins," by B. Purvis, Y. Mao, and D. Robinson, 2019, *Sustainability Science*, 14(3), p. 682.

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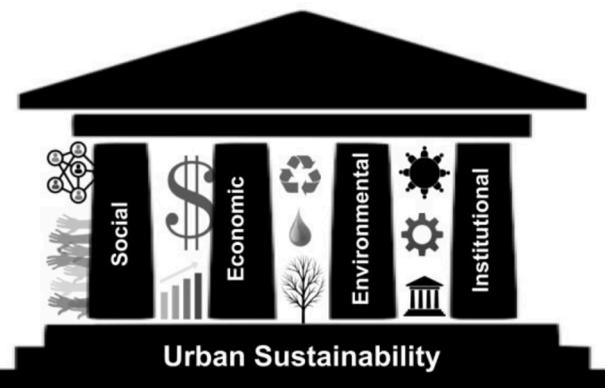
*economic dimension* focuses on addressing reasonable limits of economic growth by leading competitive, collaborative, inclusive, and dynamic economic systems (Anand & Sen, 2000; Spangenberg, 2005; Purvis et al., 2019); and the *environmental dimension* focuses on natural ecosystem resources conservation and preservation (Goodland, 1995; Purvis et al., 2019). Therefore, sustainability reconciles the social, economic, and environmental ecosystems at all levels.

Furthermore, sustainability can be classified as weak or strong by discussing the role of the 'man-made capital' (e.g., abstract or concrete things such as knowledge and infrastructure) and 'natural capital' (i.e., the environmental assets) in the human and natural ecosystems. How man-made capital and natural capital behave among themselves are decisive in defining the sustainability strength (Pearce & Atkinson, 1993; Gutés, 1996; Ayres et al., 2001): on the one hand, *strong sustainability* occurs when man-made capital and natural capital are harmonically integrated and complementary; on the other hand, *weak sustainability* occurs when they are not integrated, and thus they are interchangeable, e.g., man-made capital substituting natural capital. However, this rationale has had no consensus among scholars. For instance, this rationale is illegitimate for Biely et al. (2018, p. 223), who argue that systems can only be sustainable or unsustainable, and thus the concept of weak sustainability contradicts "... the acknowledged assumption that the current state is unsustainable". Although there is a lack of consensus on weak sustainability terminology, it is widely recognized that shifting the world's natural ecosystems to sustainable

paradigms is necessary.

The debate on sustainability has also been integrated into the urban context. *Urban Sustainability* is the ability or the commitment of a community "... to maintaining and enhancing the provision of resources, services and opportunities for current and future residents along economic, environmental and equity lines" (Swann & Deslatte, 2019, p. 2). According to the literature review conducted by Michalina et al. (2021, p. 2), sustainability also needs one more specific dimension for the urban context; the *institutional dimension* of sustainability is relevant to be included since "... cities require responsible institutions" for addressing urban issues. Thus, an institutional analysis also scrutinizes the policies and systems as well as the capacity of local governments regarding their orientation to sustainability issues (Grafakos et al., 2016). Institutional analysis is also critical for assessing or measuring urban design processes and interventions (Ataman & Tuncer, 2022). Therefore, Urban Sustainability has four dimensions: social, economic, environmental, and institutional, as illustrated in Fig. 3.

In this way, the mainstream literature has revealed that it is crucial to control and assess the quality and the impact of the urban systems and policies by focusing on sustainability-based concepts, indicators, and models (Alberti, 1996; Maclare, 1996; Huang et al., 2015; Kaur & Garg, 2019; Swann & Deslatte, 2019; Montoya et al., 2020; Michalina et al., 2021; Sharifi, 2021; Purvis et al., 2022). In addition, scholars and practitioners can learn from intercity comparisons, collaborative networks, and best practices from governmentality concepts (Bulkeley, 2006; Childers et al., 2014). The *main challenges* to Urban Sustainability have been related to globalization, localization, urbanization, built-environment issues, densification impact, productive processes, human behavior, short-term orientation versus long-term orientation in



**Fig. 3.** Urban Sustainability dimensions: social, economic, environmental, and institutional.

decision making, local community issues, and facing climate change (Keivani, 2009; James, 2014; Swann & Deslatte, 2019; Næss et al., 2020).

However, most communities have failed to implement policies that reach sustainability's environmental and social dimensions due to communicational, political, and economic factors (Marcuse, 1998; Davidson, 2010; James, 2014; Howes et al., 2017). Also, although local governments play a critical role in sustainability transition (Swann & Deslatte, 2019; Zhang et al., 2021), urban policies labeled as 'sustainable' can mask the interests of local community elites (see Marcuse, 1998) and be a tool for social dominance (Davidson, 2010). Despite some negative criticism found in the literature, *sustainability* is based on applicable principles to an interconnected ecosystem among social, economic, and environmental dimensions (Purvis et al., 2019) and also the institutional dimension of sustainability at the city level (Grafakos et al., 2016; Michalina et al., 2021; Ataman & Tuncer, 2022).

Therefore, in order to deepen the clarification of the conceptual connections between SVC and Urban Sustainability, this study clarifies *how the Urban Sustainability dimensions interplay among themselves* (i.e., social, economic, environmental, and institutional). Also, we classify the dyadic phenomenon in light of the two dilemmas of *Sustainability Science: strong sustainability versus weak sustainability; and sustainable versus unsustainable*.

### 3. Research design

This study was designed by considering the precepts of MMR by integrating quantitative and qualitative inferences into a meta-inference (Teddlie & Tashakkori, 2009; Åkerblad et al., 2021; Nooraei et al., 2020; Tashakkori et al., 2020). Although most MMR studies have been empirical, they can be used in review and theoretical studies by "... multiperspective stakeholder approach, a theory-bound analytical strategy, and a theory-oriented synthesizing strategy" (Åkerblad et al., 2021, p. 1). Furthermore, this study adopted the sequential mixed design of MMR (Teddlie & Tashakkori, 2009; Tashakkori et al., 2020), in which the qualitative phase preceded the quantitative phase. Fig. 4 illustrates the sequential mixed design of MMR used in this study, which has four phases: conceptualization and preparation, qualitative, quantitative, and meta-inference.

We chose the sequential mixed design of MMR for three main reasons. First, the main reason is that *MMR increases and strengthens the analytical degree of findings* by integrating qualitative and quantitative inferences into a meta-inference (Tashakkori et al., 2020). Second, *MMR allows a deep and rigorous analysis of the sample elements*, vital to achieving the research purpose and revealing the main and specific characteristics of the phenomenon under investigation. Third, a sequential mixed design of MMR by starting with a qualitative analysis (i.e., through Research Synthesis) *synthesizes, details, and classifies the dyadic phenomenon*, and the quantitative analysis (i.e., through Network Analysis and Exploratory Data Analysis) allows to *identify the most salient elements of the dyadic phenomenon* previously classified in the qualitative analysis.

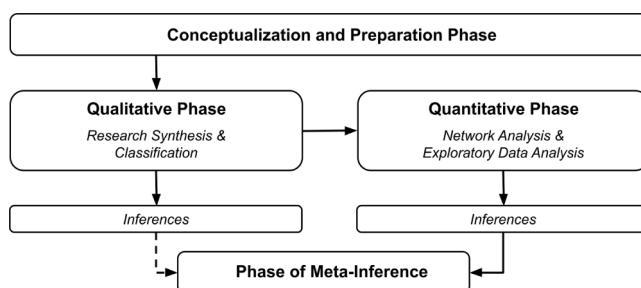


Fig. 4. Phases of the study.

More specifically, this research explores the conceptual connections between SVC and Urban Sustainability. As noted in the research, a conceptual connection is a *dyadic phenomenon*. A dyadic phenomenon happens when two or more elements are interrelated for some known or unknown reason (Borgatti et al., 2009). In our case, the conceptual connection between SVC and Urban Sustainability has already been found in previous research (Beck & Storopoli, 2021). However, this dyadic phenomenon has not been deeply explored so far. Therefore, MMR allows a broader and more rigorous understanding of dyadic phenomena, such as conceptual connection among two or more theoretical approaches, by: on the one hand, exploring the *specific characteristics and details of dyadic phenomena* through a qualitative strand; on the other hand, classifying and revealing the *outstanding elements of dyadic phenomena* through a quantitative strand.

The following subsections provide the details for each one of the four phases of this study: (1) conceptualization and preparation phase; (2) qualitative phase; (3) quantitative phase; and (4) meta-inference phase.

#### 3.1. Conceptualization and preparation phase

For exploring the dyadic phenomenon of the *conceptual connection* between the categorical variables SVC and *Urban Sustainability*, 40 articles of SVC literature were extracted from Scopus through the boolean expression: TITLE-ABS-KEY ("stakeholder" AND "value creation" AND "city" OR "cities" OR "municipalit\*" OR "urban") AND PUBYEAR < 2022 AND (LIMIT-TO (DOCTYPE, "ar")). Scopus database was chosen due it is the most comprehensive scientific database in Social Applied Sciences, providing significant results from a broader range of high-quality indexed journals, such as in the case of the domain of Urban Studies (Mongeon & Paul-Hus, 2016; Martín-Martín et al., 2018; Martín-Martín et al., 2018). The data was wrangled and cleaned to assure theoretical validity (i.e., relation to SVC and address at least one of the four dimensions of Urban Sustainability). This thorough inspection was made by reading the abstracts, results, discussion, and conclusion sections, as recommended, before conducting a Research Synthesis about one or more research topics (Beck & Ferasso, 2022). After that, 35 articles remained in the final sample.

#### 3.2. Qualitative phase

A Research Synthesis (RS) (Cooper et al., 2019) with classifications and inferences was made for identifying the conceptual connections between SVC and Urban Sustainability. RS and classifications generated the input information for the quantitative phase and inference of this qualitative phase.

RS is replicable because it uses systematic methods of literature collection, synthesis, and classification (Cooper et al., 2019). Also, RS is recommended when a more detailed and profound understanding of the literature is needed because this technique allows the researcher to interpret the findings more profoundly (Cooper et al., 2019). Specifically, this research used the RS by aggregation, where the main findings from retrieved documents are directly connected to the phenomenon being studied, producing a *cumulative synthesis of results* focusing on the most relevant information needed for the analysis process (Heyvaert et al., 2013).

The syntheses allowed the structuration of the findings in the form of *classifications*. The synthesized literature made it possible to establish how SVC and Urban Sustainability were connected. The *classification procedure* is the second stage of the qualitative phase and comprises the researcher's judgment of coding schemes. Classifications are made when characteristics variance are assessed across the findings, and these findings are grouped according to their *similarities in predefined categories* (Stock, 1994). In this research, the SVC literature, after providing the RS results, was categorized according to their conceptual connection with each Urban Sustainability dimension (the predefined categories). Finally, an inference provides a comprehensive understanding of

qualitative analyses (RS and classifications).

### 3.3. Quantitative phase

The results of RS and classifications (qualitative phase) identified the connections between the dyadic phenomenon (the conceptual connection between SVC and Urban Sustainability). Thus, the classifications were used as input for the quantitative phase for visually representing these connections through Network Analysis. The data synthesized and classified at the qualitative phase was organized, tabulated, and then manipulated on the *Gephi* software by including the conceptual connections between SVC sampled literature and Urban Sustainability dimensions. In this way, the elements of SCV are the 35 sampled papers, and the elements of Urban Sustainability are its four dimensions, which in turn became nodes in the network. The conceptual connections identified in the classification made in the qualitative phase became the edges (links) between the elements within the network.

After that, we applied Network Analysis (NA) and Exploratory Data Analysis (EDA), which allowed us to explore the network centrality measures, i.e., Degree Centrality (DC), Closeness Centrality (CC), Betweenness Centrality (BC), and Eigen Centrality (EC). These centrality measures reveal the nodes with the highest prestige, influence, and better localizations within the network. Also, NA and EDA allow the analysis of the dyadic phenomenon of the conceptual connection between SVC and Urban Sustainability in an objective and replicable manner (Tukey, 1977; Nuzzo, 2016; Newman, 2018).

NA is an optimal research method for exploring dyadic phenomena (Borgatti et al., 2009; Newman, 2018), such as in the case of this study, the dyadic phenomenon of conceptual connections. The point is that the centrality measures of NA allow researchers to identify the *outstanding* elements (nodes) and connections (edges) in dyadic phenomena. Moreover, centrality measures determine the power of influence/prestige of an element (node) by considering its position and connections within the network (Borgatti et al., 2009; Newman, 2018).

In this study, we applied *Heterogeneous Information Network Analysis* (Yu et al., 2010; Sun et al., 2012) to explore heterogeneous pieces of information (i.e., sampled articles about SVC and the conceptual dimensions of Urban Sustainability), which were previously explored, organized, and classified in the quantitative phase. As explored in this study, conceptual connections are pieces of information that are reciprocally interconnected and thus constitute an *undirected network* (Newman, 2018). According to Shi et al. (2017, p. 11), *Heterogeneous Information Network Analysis* enables researchers to merge "information from heterogeneous sources with differing conceptual, contextual and typographical representations." Therefore, NA helps explore the dyadic phenomenon studied and bridge SVC and Urban Sustainability.

EDA helps provide replicable results by identifying data distribution properties. In this study, EDA identifies the *distribution properties of the network elements* (nodes) and *node clusters* (one for SVC literature and the other for Urban Sustainability dimensions). EDA extends the analysis of NA centrality measures because the classic NA does not include distribution properties. The main distribution properties are the first and third quartiles, median (also known as the second quartile), mean, mode, and outliers (Tukey, 1977; Hair et al., 2019). Also, we applied the widely used *interquartile range* (IQR) defined by Tukey in 1997 in this study. For these reasons, the distribution properties scrutinized in EDA provide an objective and replicable statistical analysis. Thus, allowing an in-depth exploration of the dyadic phenomenon of conceptual connection represented in the network.

**Software, tools, and algorithms.** NA was performed using *Gephi* software (Bastian et al., 2009), which provided the network centrality measures and allowed us to plot the network through the *Fruchterman Reingold algorithm* (Fruchterman & Reingold, 1991). Finally, EDA was performed by the *R programming language* version 4.1.2 (R Core Team, 2021).

### 3.4. Meta-inference phase

In this phase, the inferences made in qualitative and quantitative analyses are aggregated into the meta-inference, which assures higher standards of research rigor, reliability, and accuracy (Tashakkori et al., 2020). The meta-inference aims to form a *more coherent conceptual framework* capable of answering the research question(s) or achieving the research purpose(s). The *integration* of quantitative and qualitative inferences through *comparisons* allows the researcher to achieve an enhanced understanding of the studied phenomenon. Therefore, a meta-inference is necessarily mixed. These integration procedures result in a *high-order conceptual framework* at a higher level if compared to quantitative or qualitative inferences separately (Teddlie & Tashakkori, 2009; Tashakkori et al., 2020).

In sum, conceptual connections between SVC and Urban Sustainability are explored in both qualitative and quantitative phases. The resulting meta-inference allowed achieving this high-order conceptual framework and provided future research directions.

## 4. Results

### 4.1. Qualitative analysis

This subsection presents the RS, classifications, and inferences for the conceptual connections between SVC and Urban Sustainability. This subsection is divided into five parts concerning the qualitative analysis of the conceptual connections between SVC and Urban Sustainability. For better order of classification, we initially worked with each dimension of Urban Sustainability (from the first to the fourth part). Finally, the fifth and last part integrates and synthesizes all the qualitative inferences.

#### 4.1.1. SVC and the Social Dimension of Urban Sustainability

The literature has shown that SVC has been conceptually connected to the social dimension of sustainability. In general, SVC in cities is related to the satisfaction of stakeholder needs for many reasons:

First, smart cities meet stakeholder needs and expectations, e.g., in smart shared mobility and smart healthcare (Simeone et al., 2017; Kankaala et al., 2018; Yang et al., 2018; Camboim et al., 2019; Coenegrachts et al., 2021; Su et al., 2021). However, some scholars criticize possible negative aspects of smart cities in SVC. For example, Das (2020) argues that smart cities have a narrowed understanding of the quality of life since smart cities have focused mainly on neoliberal economic lenses, as analyzed in the Indian context. Thus, sustainability's social and environmental dimensions have been undervalued in the context of smart cities (Das, 2020).

- Second, the improvement of urban quality of life, urban atmosphere, sustainable urban strategy, good city reputation, and city authenticity (Mayangsari & Novani, 2015; Camboim et al., 2019; Das, 2020; Rust, 2020; Beck & Storopoli, 2021; Ruiz-Lozano et al., 2021); and
- Third, cultural elements and social bricolage satisfy different stakeholder needs and preferences (Lange & Bürkner, 2013; Beck & Storopoli, 2021; Park & Shin, 2021).

As mentioned in the theoretical background section, Missimer et al. (2017a, p. 7) highlighted that "... trust, common meaning, diversity, capacity for learning and capacity for self-organization" are critical aspects for human satisfaction, and thus, it is vital for SVC considering these aspects for fostering Urban Sustainability. The following paragraphs deal consecutively with each one of these aspects, which are classifications considered during the RS process.

*Trust* among urban stakeholders is vital for the social sustainability of SVC in cities. Consensus and satisfaction of stakeholder needs are embedded in the core of the SVC concept. Culture and identity matter when building trust among stakeholders (Hiltunen et al., 2021; Velsberg

et al., 2021). In this way, trust is a distinctive element for achieving consensus and meeting the stakeholder needs of citizens. The literature reveals that *trust* drives stakeholders to work collaboratively in projects related to social sustainability and circular economy, create collaborative networks in cities and regions, and foster innovation in urban ecosystems (Swagemakers et al., 2018; Neumann et al., 2019; Atkočiūnienė & Siudikienė, 2021; Hiltunen et al., 2021; Park & Shin, 2021).

The *Common meaning* among stakeholders is strictly related to the social sustainability of SVC in cities. Thus, the consideration of cultural aspects and social values and transparent dialogue among stakeholders promote common meaning and a sense of belonging needed for SVC, innovation urban ecosystems, circular economy, smart sustainable cities, and strategizing Public-Private Partnerships (PPPs) (Sacco & Crociata, 2013; Mayangsari & Novani, 2015; Mouraviev & Kakabadse, 2015; Fotino et al., 2018; Kankaala et al., 2018; Miller, 2018; Swagemakers et al., 2018; Camboim et al., 2019; Ma & Chang, 2019; Rust, 2020; Atkočiūnienė & Siudikienė, 2021; Coenegrachts et al., 2021; Ruiz-Lozano et al., 2021; Velsberg et al., 2021).

*Diversity* is crucial in social sustainability for SVC at the city level, in which three main characteristics are embedded: first, *cultural diversity* (Sacco & Crociata, 2013; Lange & Bürkner, 2013; Neumann et al., 2019; Rust, 2020); second, multiple and different *knowledge, experiences and understandings* (Camboim et al., 2019; Ma & Chang, 2019; Neumann et al., 2019; Atkočiūnienė & Siudikienė, 2021); and third, diversity of *stakeholder types* (Mayangsari & Novani, 2015; Fotino et al., 2018; Coenegrachts et al., 2021).

*Capacity for learning* is crucial for urban stakeholders and urban systems to improve the quality of life and local services and promote social sustainability in SVC. In this way, cultural-based value creation processes allow different stakeholders to learn from each other (Sacco & Crociata, 2013). Furthermore, urban innovation ecosystems foster research and development (R&D) initiatives, stakeholder collaboration, non-formal learning, and knowledge information exchange that are crucial for enhancing the capacity for learning of all urban stakeholders (Kankaala et al., 2018; Camboim et al., 2019; Neumann et al., 2019; Atkočiūnienė & Siudikienė, 2021; Richards, 2021; Robaeyst et al., 2021). Therefore, the capacity for learning of urban stakeholders also improves local public services and private sector development, resulting in higher-level urban development, e.g., in smart healthcare (Kankaala et al., 2018; Atkočiūnienė & Siudikienė, 2021; Su et al., 2021).

Finally, the *capacity for self-organization* is related to the concept of smart cities, sustainable urban strategy, and circular and sharing economies in the social dimension of sustainability regarding SVC at the city level. In this way, the literature reveals that: First, self-organizing capacity is mainly used in the context of smart cities, which is enhanced by information and communication technology (ICTs). In this way, ICTs play a critical role in the city organization by decision-making based on data and focused on people's needs (Simeone et al., 2017; Kankaala et al., 2018; Romão et al., 2018; Pedersen et al., 2021; Su et al., 2021; Velsberg et al., 2021). Thus, ICTs are also crucial in making decisions based on real-time data and in managing city infrastructure systems (Yang et al., 2018; Pedersen et al., 2021).

Second, sustainable urban strategy is oriented to the expectations and needs of urban stakeholders (Beck & Storopoli, 2021), which are connected to co-create value within the urban ecosystem (Sacco & Crociata, 2013; Miller, 2018; Cuno et al., 2019; Coenegrachts et al., 2021; Park & Shin, 2021). Urban networks are responsible for creating flows of human and technical resources needed for strategic value creation in cities (Richards, 2021). In this scenario, not only the formation of stakeholder networks but also local policies and regulatory contexts should be formulated by considering the interests of all stakeholders (Miller, 2018; Coenegrachts et al., 2021; Ruiz-Lozano et al., 2021). Third, stakeholders can increase the urban capacity for self-organization by applying the circular economy and sharing economy precepts at the city level (Swagemakers et al., 2018; Winslow & Mont, 2019).

#### 4.1.2. SVC and the Economic Dimension of Urban Sustainability

The findings of our RS revealed two main characteristics intersecting SVC and the economic dimension of Urban Sustainability: (1) Stakeholder engagement and cooperation; and (2) ethics. The following paragraphs consecutively detail these characteristics.

*Stakeholder engagement and cooperation* are at the core of economic development promoted by SVC processes. In this way, Stakeholder engagement and cooperation in SVC processes are responsible for fostering urban innovation ecosystems, urban tourism, smart cities, urban energy efficiency, healthy market competition, creative economy (involving stakeholders from the relational capital, social capital, and creative class), city reputation, city branding, conferences and festivals in the city, advanced sustainable logistics and urban mobility, circular economy, and knowledge sharing among stakeholders (Lange & Bürkner, 2013; Sacco & Crociata, 2013; Mayangsari & Novani, 2015; Mouraviev & Kakabadse, 2015; Brandt et al., 2017; Gammelgaard et al., 2017; Simeone et al., 2017; Fotino et al., 2018; Kankaala et al., 2018; Miller, 2018; Romão et al., 2018; Swagemakers et al., 2018; Camboim et al., 2019; Neumann et al., 2019; Das, 2020; de Kervenoael et al., 2020; Rust, 2020; Atkočiūnienė & Siudikienė, 2021; Beck & Storopoli, 2021; Chebo & Wubatie, 2021; Coenegrachts et al., 2021; Pardo-Bosch et al., 2021; Park & Shin, 2021; Pedersen et al., 2021; Richards, 2021; Robaeyst et al., 2021; Ruiz-Lozano et al., 2021; Su et al., 2021; Velsberg et al., 2021). Moreover, stakeholder engagement and cooperation are also seen in the governmental stakeholders, such that intersectoral collaboration within the municipal governments is crucial in creating value for all stakeholders due to better strategic economic policies (Ma & Chang, 2019).

*Ethics* also plays a critical role in SVC-based urban economies. Research has shown that business profitability, economic development, and ethics are interrelated since ethics not only strengthens the image of organizations but also reflects better social interplays and trust among stakeholders (Hiltunen et al., 2021). Therefore, ethics is critical to reach successful economic development in SVC at the city level.

According to Beck and Storopoli (2021), stakeholder-oriented urban societies are more socioeconomically successful since stakeholders cooperate and are engaged in societal governance. Significantly, stakeholders also contribute to providing flows of human and technical resources needed for creating value for SVC at the city level (Beck & Storopoli, 2021; Richards, 2021). Thus, stakeholders influence the urban systems and policies to satisfy their needs and create value for all stakeholders.

#### 4.1.3. SVC and the Environmental Dimension of Urban Sustainability

*Stakeholder participation and engagement* in urban governance, *smart sustainable cities, circular and sharing economies, energy efficiency, and clean transportation* are critical for SVC in the environmental dimension of Urban Sustainability. In this way, the literature on SVC at the city level has shown about these issues that:

- First, when stakeholders are engaged and participate in urban governance, they can collaboratively work to protect urban environmental ecosystems and find solutions for addressing environmental issues through urban systems and policies, e.g., urban density, urban design, city master plans, and urban infrastructure (Fotino et al., 2018; Yang et al., 2018; Camboim et al., 2019; Beck & Storopoli, 2021; Ruiz-Lozano et al., 2021);
- Second, ICT and smart cities exploit useful tools for conserving and depolluting urban environmental ecosystems, promoting strong sustainability, sustainable tourism, sustainable development, and sustainable water and waste management, e.g., data-driven management and analysis of spatial patterns in sustainable urban planning and managing urban systems as well as digital twins in urban water systems (Brandt et al., 2017; Kankaala et al., 2018; Romão et al., 2018; Camboim et al., 2019; de Kervenoael et al., 2020; Pedersen et al., 2021);

- Third, sharing economy and circular economy are essential to reduce ecological footprint with SVC in cities, which moves all urban socioeconomic and environmental ecosystems toward a more sustainable development, e.g., shared mobility as a sustainable mobility solution that helps to integrate different transportation modes (Swagemakers et al., 2018; Winslow & Mont, 2019; Coenegrachts et al., 2021; Pardo-Bosch et al., 2021); and
- Fourth, energy efficiency and savings could also be promoted by SVC in reducing greenhouse gas emissions and promoting the use of cleaner energy (Ma & Chang, 2019; Coenegrachts et al., 2021; Pardo-Bosch et al., 2021).

Therefore, the literature has revealed that SVC and the environmental dimension of Urban Sustainability have shown more evidence that SVC is conceptually connected to Urban Sustainability in the social, economic, and institutional dimensions than the environmental dimension. However, it does not mean that the environmental dimension is less critical in SVC at the city level, but that SVC should further explore environmental concerns at the city level.

#### 4.1.4. SVC and the Institutional Dimension of Urban Sustainability

As for the other dimensions, *stakeholder engagement and collaboration* are at the core of SVC in the institutional dimension of Urban Sustainability. Stakeholder engagement and collaboration are the main strategy for creating value by local governments and all the stakeholders in urban governance, e.g., PPPs, community, third-sector, and inter/multi-sectoral collaboration (Sacco & Crociata, 2013; Fotino et al., 2018; Miller, 2018; Mouraviev & Kakabadse, 2015; Yang et al., 2018; Camboim et al., 2019; Ma & Chang, 2019; Neumann et al., 2019; Winslow & Mont, 2019; Das, 2020; Atkociünienė & Siudikienė, 2021; Beck & Storopoli, 2021; Chebo & Wubatie, 2021; Coenegrachts et al., 2021; Park & Shin, 2021; Richards, 2021; Velsberg et al., 2021). *Urban policies, urban regulations, urban services, and urban systems* are directly influenced by the decisions made by local governments and other governance stakeholders, in which cultural aspects, analysis of spatial patterns, shared meanings and trust among stakeholders, data sharing among stakeholders, and stakeholder cooperation are needed for value creation at the local level (Sacco & Crociata, 2013; Mayangsari & Novani, 2015; Brandt et al., 2017; De Tuya et al., 2017; Simeone et al., 2017; Fotino et al., 2018; Kankaala et al., 2018; Romão et al., 2018; Swagemakers et al., 2018; Yang et al., 2018; Cuno et al., 2019; Ma & Chang, 2019; Winslow & Mont, 2019; de Kervenoael et al., 2020; Rust, 2020; Coenegrachts et al., 2021; Pardo-Bosch et al., 2021; Ruiz-Lozano et al., 2021; Velsberg et al., 2021). Such a value creation can be accompanied by developing smart cities and fostering innovation (Camboim et al., 2019; Neumann et al., 2019; Su et al., 2021; Velsberg et al., 2021).

#### 4.1.5. Summary of the qualitative inferences

The inferences of the qualitative analysis revealed several relevant aspects of each dimension of Urban Sustainability to which SVC is related:

- First, stakeholder engagement and cooperation is a shared characteristics among all Urban Sustainability dimensions;
- Second, the literature on SVC in Urban Sustainability totally converges with the seminal sustainability literature (about the social dimension) that self-organization and learning capacities, diversity, trust, and common meaning are critical for meeting stakeholder needs;
- Third, as for the economic dimension, ethics and stakeholder cooperation are vital sources for fostering sustainable economic development, innovation ecosystems, sharing, and circular economies, and technical and social capital;
- Fourth, as for the institutional dimension, urban governance, policies, and systems are highly influenced by urban stakeholders. For

this reason, SVC plays a critical role in creating consensus and orienting urban institutions to satisfy stakeholder needs; and

- Fifth, although the existing literature has shown that smart cities, energy efficiency, and sharing and circular economies are essential aspects of SVC within the environmental dimension. The issue is that the environmental dimension has not received enough attention from SVC scholars and practitioners.

#### 4.2. Quantitative analysis

This subsection provides an objective and overall analysis of the dyadic phenomenon of the conceptual connection between SVC and Urban Sustainability and is divided into three parts: first, it presents the NA results; second, it presents the EDA results; and third, a summary of the quantitative inferences.

##### 4.2.1. Network analysis

In order to better explore the dyadic phenomenon of a conceptual connection between SVC and Urban Sustainability, the conceptual connections identified and classified in the qualitative analysis were coded and inserted into the *Gephi* software to create the network. In this informational network, there are two clusters: one representing the SVC literature composed of the sampled references; and the other representing the dimensions of Urban Sustainability. Furthermore, the edges among these two clusters are the conceptual connections identified in

**Table 1**  
Network properties.

Node	Cluster	DC	CC	BC	EC
Economic	US	31	0.776	224.982	1.000
Institutional	US	30	0.745	203.338	0.983
Social	US	29	0.717	174.045	0.958
Environmental	US	15	0.469	35.636	0.522
Beck & Storopoli, 2021	SVC	4	0.528	2.853	0.369
Camboim et al., 2019	SVC	4	0.528	2.853	0.369
Coenegrachts et al., 2021	SVC	4	0.528	2.853	0.369
Fotino et al., 2018	SVC	4	0.528	2.853	0.369
Kankaala et al., 2018	SVC	4	0.528	2.853	0.369
Ma & Chang, 2019	SVC	4	0.528	2.853	0.369
Romão et al., 2018	SVC	4	0.528	2.853	0.369
Ruiz-Lozano et al., 2021	SVC	4	0.528	2.853	0.369
Swagemakers et al., 2018	SVC	4	0.528	2.853	0.369
Atkociünienė & Siudikienė, 2021	SVC	3	0.514	0.942	0.313
Das, 2020	SVC	3	0.514	0.942	0.313
Mayangsari & Novani, 2015	SVC	3	0.514	0.942	0.313
Miller, 2018	SVC	3	0.514	0.942	0.313
Mouraviev & Kakabadse, 2015	SVC	3	0.514	0.942	0.313
Neumann et al., 2019	SVC	3	0.514	0.942	0.313
Park & Shin, 2021	SVC	3	0.514	0.942	0.313
Richards, 2021	SVC	3	0.514	0.942	0.313
Rust, 2020	SVC	3	0.514	0.942	0.313
Sacco & Crociata, 2013	SVC	3	0.514	0.942	0.313
Simeone et al., 2017	SVC	3	0.514	0.942	0.313
Su et al., 2021	SVC	3	0.514	0.942	0.313
Velsberg et al., 2021	SVC	3	0.514	0.942	0.313
Brandt et al., 2017	SVC	3	0.514	1.690	0.267
de Kervenoael et al., 2020	SVC	3	0.514	1.690	0.267
Pardo-Bosch et al., 2021	SVC	3	0.514	1.690	0.267
Pedersen et al., 2021	SVC	3	0.500	1.573	0.264
Winslow & Mont, 2019	SVC	3	0.500	1.501	0.262
Yang et al., 2018	SVC	3	0.500	1.501	0.262
Chebo & Wubatie, 2021	SVC	2	0.500	0.402	0.211
Hiltunen et al., 2021	SVC	2	0.487	0.244	0.208
Lange & Bürkner, 2013	SVC	2	0.487	0.244	0.208
Robaeyst et al., 2021	SVC	2	0.487	0.244	0.208
Cuno et al., 2019	SVC	2	0.487	0.296	0.206
Gammelgaard et al., 2017	SVC	1	0.442	0.000	0.106
De Tuya et al., 2017	SVC	1	0.432	0.000	0.104

Note: DC = "Degree Centrality"; CC = "Closeness Centrality"; BC = "Betweenness Centrality"; EC = "Eigen Centrality"; US = "Urban Sustainability"; and SVC = "Stakeholder Value Creation". This table was set in the descending order of the Eigen Centrality measure.

the RS and classified in the qualitative phase. Table 1 presents the network properties, comprising node names, clusters, and the NA centrality measures (DC, CC, BC, and EC).

As shown in Table 1 and reinforced in Fig. 5 (network visualization), the economic, institutional, and social dimensions of Urban Sustainability present close measures of DC, CC, and EC. In this way, NA reveals that the institutional, social, and economic dimensions of Urban Sustainability are at the network's core, and the environmental dimension is positioned in a more peripheral dimension than the other dimensions.

Therefore, the environmental dimension performed considerably lower than other dimensions of Urban Sustainability in all measures. The next part presents the results of EDA, which is critical for identifying outliers by considering the replicable IQR of Tukey (1977), and thus, providing a more thorough and objective analysis of the NA centrality measures.

#### 4.2.2. Exploratory data analysis

EDA reinforces the previous findings discussed in NA by revealing that the social, economic, and institutional dimensions are *outliers* in all studied centrality measures (i.e., DC, CC, BC, and EC). However, the environmental dimension was outlier only in DC and BC. When an Urban Sustainability dimension is statistically found as an outlier in EDA by scoring beyond the maximum extent of the upper quartile range, the Urban Sustainability dimension could be considered salient in the whole network. We highlight the fact that the environmental dimension scored only twice in the centrality measures and the other dimensions four times. For this reason, the environmental dimension has been underestimated in the dyadic phenomenon of the conceptual connection between SVC and Urban Sustainability. Fig. 6 depicts the box plots for EDA

visualization of the network properties.

In sum, the quantitative analysis revealed that all dimensions of Urban Sustainability are conceptually connected to SVC. Nonetheless, although the environmental dimension scores as an outlier in half of the centrality measures (i.e., DC and BC), its scores are around 40% less than the other three Urban Sustainability dimensions. The environmental dimension did not score enough to be an outlier in CC and EC. These results highlight that the environmental dimension should be better understood and integrated into the SVC paradigm.

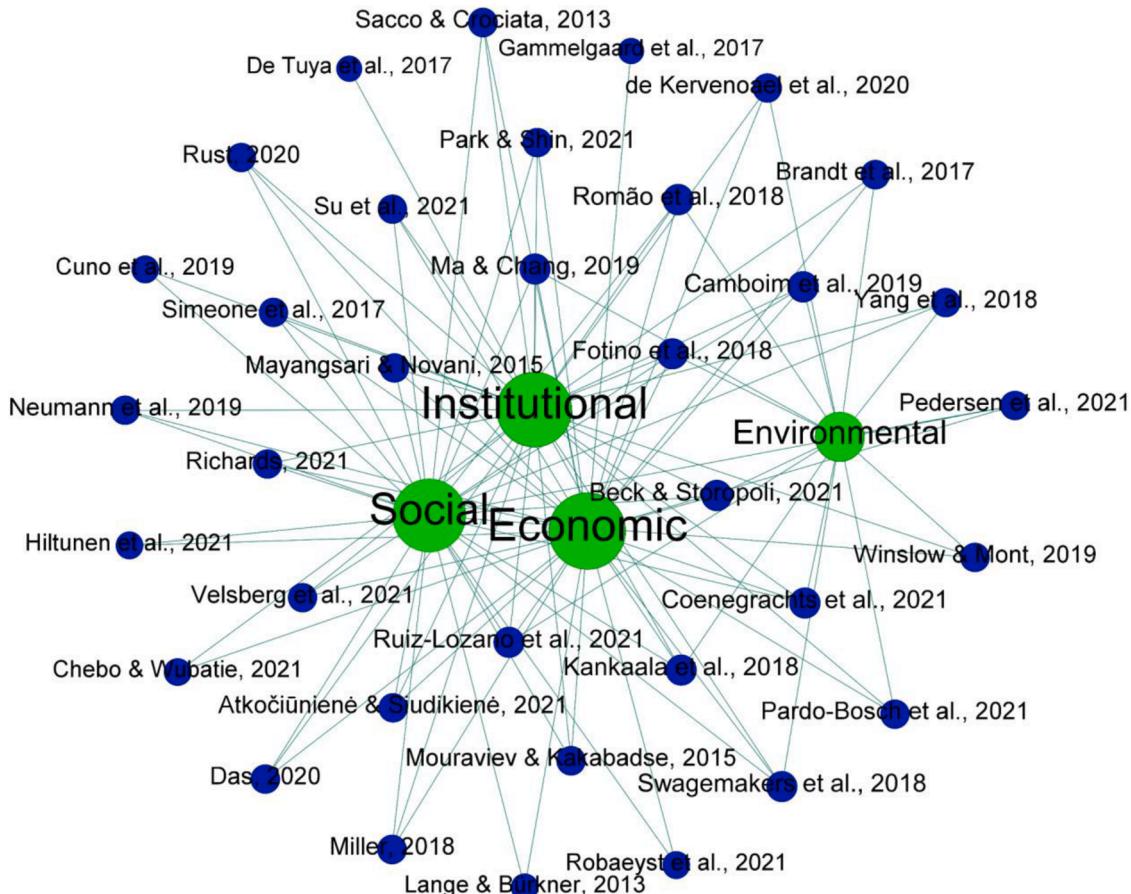
#### 4.2.3. Summary of the quantitative inferences

The quantitative analysis helped to measure to which extent each dimension of Urban Sustainability is conceptually connected to SVC by centrality measures of NA. Overall, the social, economic, and institutional dimensions have not equal but equivalent influence and prestige. However, the environmental dimension showed lower scores, revealing that the environmental dimension has been an underdeveloped arena of Urban Sustainability in SVC.

### 4.3. Meta-inference

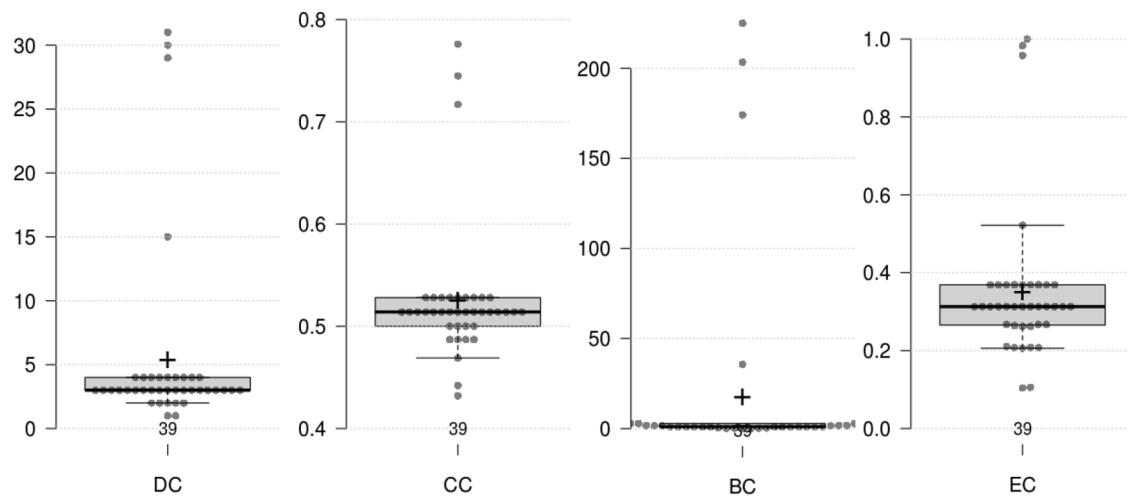
Finally, the research meta-inference points out that: on the one hand, the social, economic, and institutional dimensions are well integrated into the SVC framework in Urban Sustainability; on the other hand, evolving the environmental dimension of Urban Sustainability in SVC is a challenge to overcome.

This finding could also be expected since cities are responsible for the most significant part of GDP and global greenhouse gas emissions (Kankaala et al., 2018), and economic forces have had more power than



**Fig. 5.** Network visualization.

Note. The size of the nodes is according to their Degree Centrality score.



**Fig. 6.** Box Plots for EDA visualization of the network properties.

environmental concerns (Das, 2020). Meanwhile, this paradigm provides evidence that, despite efforts, SVC in Urban Sustainability has not been enough to avoid weak sustainability.

The following section expands the meta-inference by discussing the results in light of the theoretical lenses of Stakeholder Theory and Sustainability Science at the city level as well as by providing theoretical and practitioner contributions.

## 5. Discussion

As revealed in the qualitative analysis, the interrelated aspects between SVC and Urban Sustainability are beneficial for the *Sustainable Urban Strategy* and *Urban Marketing* components of Stakeholder Theory in Cities in all Urban Sustainability dimensions. Furthermore, these conceptual connections between SVC and Urban Sustainability could be useful for meeting stakeholder expectations and improving urban systems and policies (as proposed at the end of this subsection in the framework for fostering sustainable SVC in cities).

However, the main challenge for fostering a *Sustainable Urban Strategy* is to foster convergence among urban stakeholders to develop policies that reach the environmental dimension, even when socioeconomic trade-offs are needed (Purvis et al., 2019; Beck & Storopoli, 2021). For instance, how do societies convince industries to change harmful and financially lucrative production and consumption behaviors to the environment? How to convince citizens to effectively change harmful consumption habits, such as unsustainable transportation, water wastewater, and electricity, and implement smart sustainable solutions at home and in cities? Therefore, it is challenging to implement effective and sustainable urban strategies if there are misalignments between values and practices (i.e., *common meaning*) among stakeholders (Missimer et al., 2017a).

The consequences of the misalignments between the values and practices of stakeholders were clearly shown in the qualitative, quantitative, and meta-inferences: *There is an urgent need for better integrating the environmental dimension in the framework of SVC and Urban Sustainability.*

Before discussing possible approaches to integrate the environmental dimension better, there are some important theoretical advancements of this study to the *Sustainability Science*: First, our findings revealed that the current developments about SVC and Urban Sustainability could be classified as a *weak sustainability* paradigm. The reason for this is that SVC and Urban Sustainability have not been developed enough to avoid the 'man-made capital' being disaggregated from the 'natural capital.' In other words, the socioeconomic and institutional dimensions of Urban Sustainability, which are related to the concept of 'man-made capital,'

are at the center of the dyadic phenomenon of the conceptual connection between SVC and Urban Sustainability. In this way, the environmental dimension (i.e., 'natural capital') is at a peripheral position, indicating that there has been a trade-off and stakeholders prefer the 'man-made capital' rather than the 'natural capital.'

Second, if we consider the dichotomy of *sustainable* versus *unsustainable*, as argued by Biely et al. (2018), the dyadic phenomenon between SVC and Urban Sustainability should not be considered sustainable. The reason is that the environmental dimension has been underestimated in this dyadic phenomenon. However, we proposed a framework to change the current paradigm of SVC and Urban Sustainability developments toward stronger sustainability. Fig. 7 illustrates the flow of the proposed framework for sustainable SVC in cities.

**Framework: From the sources to the means.** The first assumption of the framework is that the same five critical aspects of the social dimension of sustainability, as proposed by Missimer et al. (2017a), are also precursors for a favorable environment to foster SVC in cities and, maybe, in other contexts. By considering the definition of SVC given by Tantalo and Priem (2014) presented in the first paragraph of the "2.1. Stakeholder Theory in Cities" subsection, we can infer that *trust*, *learning capacity*, *self-organizing capacity*, *common meaning*, and *diversity* are five vital elements for fostering SVC, which in turn is characterized by *stakeholder engagement*, *stakeholder collaboration*, and *consensus building*. The reason is that these five elements are necessary to sum the expectations from all stakeholder groups and their contribution to any governance system, such as in the case of cities, states, and businesses (see: Khare et al., 2011; Tantalo & Priem, 2014; Beck & Storopoli, 2021). Therefore, we propose that:

**Proposition 1.** *Trust, common meaning, diversity, learning capacity, and self-organizing capacity are precursors and sources for Stakeholder Value Creation in organizations and governance systems, such as businesses, cities, and states.*

**Framework: From the means to the ultimate goal, which is achieving Urban Sustainability.** Stakeholder engagement, collaboration, and consensus are characteristics of SVC, which have been necessary for organizations to succeed strategically in their projects (Freeman et al., 2010; Tantalo & Priem, 2014). In other words, SVC is an effective strategic means for implementing successful organization policies, and in turn, it is also not different in urban governance and public management as a whole (Bozhikin et al., 2019; Beck & Storopoli, 2021). In this way, we propose that SVC could be a powerful tool to enhance all dimensions of Urban Sustainability, particularly to integrate the environmental dimension better, as revealed by our results. Thus, we propose that:

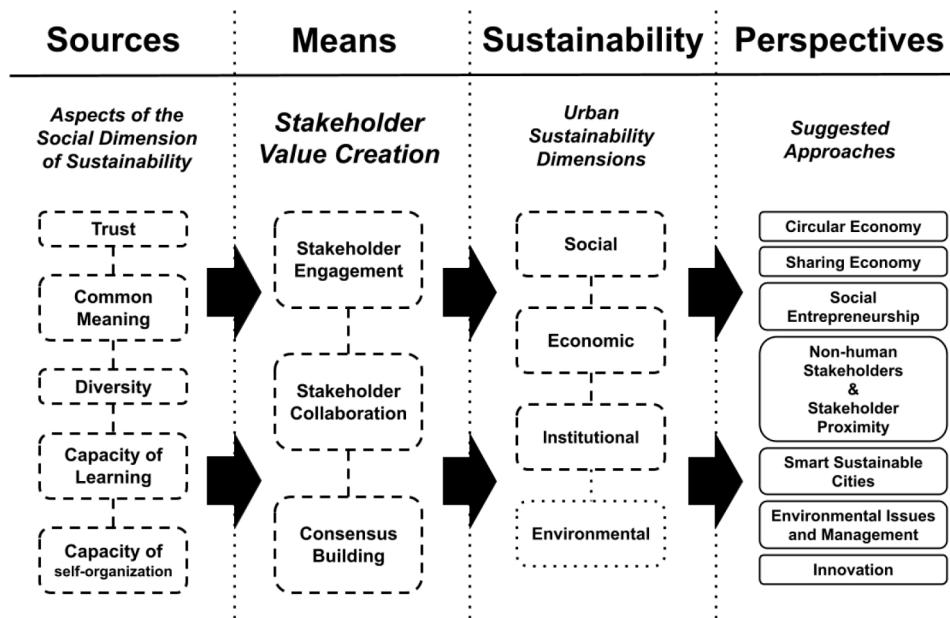


Fig. 7. A Framework for sustainable stakeholder value creation in cities.

**Proposition 2.** *Stakeholder Value Creation can enhance all the Urban Sustainability dimensions and better integrate the environmental dimension through stakeholder engagement, stakeholder collaboration, and consensus building.*

*Framework perspectives.* We suggested seven main approaches to foster Urban Sustainability through SVC by considering our findings and the multi/interdisciplinary literature. Thus, we concisely discussed the following approaches consecutively: (1) Circular Economy; (2) Sharing Economy; (3) Social Entrepreneurship; (4) Non-human Stakeholders and Proximity; (5) Smart Sustainable Cities; (6) Environmental Issues and Management; and (7) Innovation.

*Circular Economy.* Since Circular Economy proposes to reconcile the supply chain and the production and consumption patterns by reducing the waste of resources, implementing renewable energies, and other socio-environmental benefits (Korhonen et al., 2018; Ferasso et al., 2020; Arruda et al., 2021), it could also be better explored in the context of SVC and Urban Sustainability. Indeed, Circular Economy has already been explored in the urban context, mainly in European cities (e.g., Prendeville et al., 2018; Williams, 2019; Oral et al., 2020; Paiho et al., 2020, 2021; among others). In short, circular cities are cities that apply the precepts of Circular Economy through the *partnership of urban stakeholders* (Prendeville et al., 2018). Thus, promote sustainable urban development (Paiho et al., 2020; Chen, 2021) and protects cultural heritage (Gravagnuolo et al., 2021). In this way, *stakeholder engagement* is one crucial criterion for *circularity* in cities (Papageorgiou et al., 2021). The essence of Circular Cities is that Circular Economy can contribute to leading the environmental dimension to the core of SVC and Urban Sustainability so that the other dimensions are also strengthened as core dimensions. For instance, by fostering simultaneously social justice, fair governance, dynamic economy, and environmental performance (Chen, 2021; Papageorgiou et al., 2021).

Nonetheless, there are challenges to implementing the Circular Economy in cities to be overcome. First, Campbell-Johnston et al. (2019, p. 1232) identified that the "linear mindset of relevant actors" is one of the barriers. Second, local government communication and stakeholder competing interests are other challenges (Bolger & Doyon, 2019). Third, Vanhuyse et al. (2021) disagree with Chen (2021) about the social dimension by arguing that the social dimension should be better integrated into Circular Economy policies. Fourth, the Circular Economy in cities has overly accumulated resources but not promoted a wise use of

resources (Savini, 2019). In this way, we argue that the five critical aspects of SVC structured in the *Proposition 1* could be important drivers to promote *stakeholder synergy*. Thus, *consensus* about what is and how to implement *Circular Economy* in cities helps to overcome all these challenges.

*Sharing Economy.* Defined as "an IT-facilitated peer-to-peer model for commercial or non-commercial sharing of underutilized goods and service capacity through an intermediary without a transfer of ownership" (Schlagwein et al., 2020, p. 818), sharing economy has also been explored in cities by some scholars (McLaren & Agyeman, 2015; Cohen & Munoz, 2016; Salvia & Morello, 2020; Chan & Zhang, 2021; among others) and practitioners (World Economic Forum, 2017; among others). Sánchez-Vergara et al. (2021a, p. 1) defined *Sharing Cities* as cities where "people interact with each other in order to share resources, spaces, infrastructures experiences" and many other sharing-related behaviors within cities. For this reason, "citizen and community participation [and the promotion of] values such as social justice, well-being[,] and sustainability" in sharing cities (Sánchez-Vergara et al., 2021a, p. 1), revealing that SVC and Urban Sustainability underlie the phenomenon of sharing cities.

In this way, *Stakeholder collaboration* has been an essential remark highlighted by the World Economic Forum (2017) in the urban sharing economy. Local governments also play a critical role in implementing the sharing economy in cities (Barile et al., 2021; Sánchez-Vergara et al., 2021b), and communication among governments and other urban stakeholders is needed to enhance collaboration (Palgan et al., 2021; Sánchez-Vergara et al., 2021b). Before collaboration and sharing goods and services, not only *trust* among stakeholders is a vital element in the sharing economy (Hawlitschek et al., 2016) but also social interactions, convenience, and digital literacy matter in sharing cities (Salvia & Morello, 2020). Many examples in the literature show how the sharing economy can impact cities, such as the cases of *Airbnb* in the hotel industry (Zervas et al., 2017) and *Uber* in urban mobility (Taeihagh, 2017).

Furthermore, sharing cities is also essential in building *smart sustainable cities*, fostering *sustainable consumption and production patterns, innovation, and sustainability transition* (McLaren & Agyeman, 2015; Cohen & Munoz, 2016; Vith et al., 2019; Barile et al., 2021). Therefore, sharing cities are shaped by *stakeholder collaboration* (SVC) and projects that foster *smart sustainable cities* and *sustainable consumption and production patterns* (Urban Sustainability). In other words, sharing cities is

an emergent approach to strengthening the environmental dimension.

**Social Entrepreneurship.** Since social entrepreneurs are not motivated by financial profits but by social change, they could be key stakeholders for SVC by fostering partnerships. Macke et al. (2018, p. 677) synthesized that "social entrepreneurs are individuals with a social mission, capable of combining practices and knowledge as well as developing partnerships to promote sustainable social change." Furthermore, governments and other non-state stakeholders also matter in the social entrepreneurship context in making partnerships (Bozhikin et al., 2019). The bottom line is that *Stakeholder Partnerships* can only be made if stakeholders engage and collaborate in the governance system, as in *Proposition 2*, and if the five social aspects exist among stakeholders, as in *Proposition 1*. For these reasons, mainly due to the power of making partnerships, social entrepreneurship could be an emergent theme for SVC in fostering societal and Urban Sustainability.

**Non-human Stakeholders and Stakeholder Proximity.** Including non-human stakeholders and the environment in strategic organizational management has been discussed so far, mainly in Business and Economics literature (Phillips & Rechart, 2000; Orts & Strudler, 2002; Driscoll & Starik, 2004; Steurer et al., 2005; Colvin et al., 2020; Ritala et al., 2021; Tallberg et al., 2022; Kortetmäki et al., 2022; among others). In our framework of SVC, self-organizing capacity is a vital aspect of the social dimension (Missimer et al., 2017a). However, little attention has been given to the role of non-human stakeholders (e.g., fauna and flora) and geographical stakeholder proximity in self-organization capacity and SVC. Therefore, to better integrate the environmental dimension in our context, theoreticians and practitioners should explore non-human stakeholders and stakeholder proximity in the city's SVC processes.

**Smart Sustainable Cities.** Although recent, Smart Sustainable Cities have vastly advanced in the Urban Studies literature (Bibri & Krogstie, 2017). Smart Sustainable Cities can contribute in several ways to SVC and Urban Sustainability, mainly on: (1) stakeholder satisfaction and higher quality of life through optimized urban services and infrastructure with advanced technologies, increasing the efficiency of urban systems and policies (Bibri & Krogstie, 2017; Macke et al., 2019; Beck & Conti, 2021); (2) a smart governance with a receptive environment for making partnerships and strengthening the Power of Networks in SVC in cities (Beck & Conti, 2021; Beck & Storopoli, 2021); and (3) improving a better urban design and use of technologies for the reconciliation between environment and the other Urban Sustainability dimensions (Catalano et al., 2021). Therefore, Smart Sustainable Cities are critical for relocating the peripheral location of the environmental dimension without disaggregating the other Urban Sustainability dimensions.

**Environmental Issues and Management.** Environmental issues and management are related to non-human stakeholders, and stakeholder proximity since the environment could be considered a stakeholder (Phillips & Rechart, 2000; Driscoll & Starik, 2004). However, it is important that not only the environment be understood as a salient stakeholder but also that *the environment should be solidified in the Sustainable Urban Strategy* (Beck & Storopoli, 2021). In this way, *stakeholder engagement and pressure* as vital aspects of SVC have been considered a crucial strategic means for addressing climate change, greenhouse gas reduction, and other ecological challenges (Betsill & Bulkeley, 2006; Sprengel & Busch, 2011; Cadez et al., 2019). This rationale is aligned with the arguments of Beck and Storopoli (2021) that stakeholder-orientation is a key strategy for Urban Sustainability, and therefore, SVC is a solid instrument for fostering *sustainable cities and societies*. Also, it is aligned with the role of stakeholder partnerships in addressing climate change and other environmental issues (Khare et al., 2011).

**Innovation.** The relevance of cities for innovation is because "Cities are a nation's innovation hubs, producing almost all patents and other measures of new products and processes..." (Marceau, 2008, p. 136). Also, innovation matters for economic development (Fang et al., 2014). Therefore, in order to flourish innovation in cities, *smart sustainable city*

policies are crucial by addressing technological spillovers and many *innovation ecosystem's stakeholders*, resulting in technological discoveries, high-tech patents, and economic development (Caragliu & Del Bo, 2019; Ferasso et al., 2018; Johnson, 2008; Wang et al., 2021). Furthermore, this ecosystemic perspective of innovation at the city level can leverage the *power of networks* of urban stakeholders (Beck & Storopoli, 2021), which in turn enhances the city's competitiveness to attract more creative power and social capital, as seen in Medellin and Naples (Hospers, 2008; De Falco, 2018; Ferrari et al., 2018; Rodríguez-Pose & Lee, 2020; Zhou & Li, in press).

Additionally, eco-innovations policies supported by the urban stakeholders can mitigate climate change through transportation, energy, and pollution solutions (Kronsell, 2013; Gao & Yuan, 2021). Therefore, innovation is a promising perspective to foster Urban Sustainability through SVC since it leverages the power of networks of urban stakeholders, which is based on stakeholder collaboration and consensus (*Proposition 2*). Also, eco-innovations foster smart sustainable cities.

## 6. Conclusions

This research explored the conceptual connections between SVC and Urban Sustainability. The outcomes of this research proved to be comprehensive and provided many contributions for scholars, practitioners, and policymakers in the discussion section. The main findings revealed that Urban Sustainability's social, economic, and institutional dimensions are fully integrated into the SVC framework; however, *cities need better integration of the environmental dimension*. Several suggestions were addressed for further explorations. For this reason, we proposed a *framework for Sustainable SVC in Cities*, in which *SVC is a means for achieving all dimensions of Urban Sustainability and better integrating the environmental dimension*.

Additionally, this study provides a new research protocol for analyzing dyadic phenomena (i.e., Cross-network Information analysis). Also, findings revealed that SVC in Urban Sustainability has not been enough to avoid *weak sustainability* despite efforts. Finally, we also identified the critical characteristics of SVC in Urban Sustainability: stakeholder engagement; stakeholder cooperation; ethics of capitalism; satisfaction of stakeholders' needs by self-organization and learning capacities; diversity, trust, common meaning, and consensus; sustainable economic development; innovation ecosystems; sharing economy; circular economy; technical resources; social capital; smart cities; and energy efficiency.

Among the limitations, this study was built according to qualitative analyses encompassing authors' interpretations and may vary in future studies. The connections of dyadic phenomena can vary if new scientific databases were considered in other analyses. The interpretations of results and the framework can be extended according to other scholarly knowledge.

## Declaration of Competing Interest

We, Beck and Ferasso, do not have any conflict of interest.

## Data Availability

The dataset was gathered from the Scopus Database and the Boolean Search Expression was provided in the Research Design section. Also, the dataset, the matrix used in categorization, and the files about the edges and nodes used in the Gephi software are available at our project in the Open Science Framework repository: [https://osf.io/yd67s/?view\\_only=9faf1552ddcf4f468b5e8768976dc19](https://osf.io/yd67s/?view_only=9faf1552ddcf4f468b5e8768976dc19).

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