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Open Strategizing for Developing Smart City Food System: Stakeholder Inclusion in Practice

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Abstract

The positive impact of stakeholder engagement (SE) in smart city development initiatives has received notable scholarly attention over the past decade. Researchers of stakeholder engagement have investigated various aspects of the engagement process from different theoretical perspectives, yet the complexity and dynamism of inclusion, especially at the societal level and in the context of smart city development, continue to inspire more research. Drawing from the intersection of open strategy (OS) and SE, we seek to enhance understanding of the open strategizing process by elucidating stakeholder inclusion practices in a smart city initiative, focusing on food systems in Da Nang, Vietnam. Our participatory action research draws on 114 semi-structured interviews and four stakeholder workshops to analyze the way stakeholder inclusion practices unfold in the strategic decision-making process of a smart city initiative. Our analysis reveals that stakeholder inclusion is complex and involves four interdependent practices at different stages of the strategizing process. These practices are *trust formation*, *common language creation, role transformation*, and *expectation alignment.* Together, they culminate in the creation of an interactive social space for the strategy-making process. The proposed analytical framework highlights the interdependencies among practices and their outcomes at different stages of the open strategizing process and could serve as a guideline in a context in which stakeholder inclusion at the planning phase is necessary to achieve systemic change.

1. Introduction

Smart city transition projects, utilizing digital solutions in sectors like housing, transportation, energy, healthcare, education, and food systems, are pivotal for updating urban technological infrastructure, tackling local sustainability challenges, and enhancing citizens' well-being (Beckers et al., 2023). However, effectively governing these multifaceted initiatives demands skillful resource management and the involvement of economic and societal stakeholders, necessitating significant shifts in decision-making paradigms (Beckers et al., 2022). The involvement of diverse actors, technologies, regulations, policies, and institutions, along with their interdependencies, amplifies the complexities. Such a complex setting requires collective actions "that mobilize and share knowledge, expertise, technology, and financial resources, to support the achievement of the sustainable development goals" (IAEG-SDGs, 2021: 22). The goals of smart city development involve enhancing the human experience. Therefore, the complexities of "how, where, and why we feed ourselves" are deeply embedded fundamental aspects of that experience, motivating a sectoral focus on food systems in the context of smart city development (Thornton et al., 2020). In this respect, having a sectoral boundary and exploring the processes within which collective actions are embedded offers a way to unravel the intricacies of the "collaborative puzzle" in the context of smart city development (Thabit and Mora, 2023).

Conventionally, organizational elites often make city-level decisions that represent groups of politicians. In the best-case scenario, these decisions are supported by expert knowledge (Webb et al., 2017) or made by elite groups within organizations that find it challenging to include the diverse interests of all stakeholders at the societal level (Hautz, 2017; Scherer & Palazzo, 2007). Taking steps to achieve goals in the context of smart city initiatives translates into governance pillars that comprise strategic agendas designed to create the conditions in which smart city development takes place (Beckers et al., 2022).

Considering this, we are witnessing the rise of alternative open and collaborative approaches, such as open innovation, open governance, open strategy, co-design, and co-creation of products and services to address system-level goals (Nonet et al., 2022; Splitter et al., 2022). The principal of these open approaches is stakeholder engagement (SE). In the SE research domain, scholars have called attention to the importance of engagement processes in strategic planning and decision-making phases of transition initiatives (Castelló et al., 2016; Noland & Phillips, 2010; Ramus & Vaccaro, 2017). Stakeholders' co-decision-making although is rarely used but necessary to address system-level complexities (Gray, 1985; Reed et al., 2013; Stieger et al., 2012; MacDonald et al., 2019). An idealistic outcome of the SE process is to minimize the gap between the strategic intentions of stakeholders to operationalize the resulting common goal (Nonet et al., 2022).

In the context of smart city development initiatives, SE is often used for either co-production, emphasizing the technical side (Paskaleva, 2011), or co-design, emphasizing non-technical aspects of new urban service development by citizens for citizens (Paskaleva et al., 2015). SE literature proves that fostering collective actions at the societal level requires transparent decision-making processes (Letaifa, 2015) and a decentralized, people-centric approach (Trencher, 2019). Although research has identified participatory decision-making processes as an effective approach for the success of smart city initiatives (e.g., Reed, 2008; Walz et al., 2007; Shackleton et al., 2019; Fraser et al., 2006), to date, empirical evidence on how inclusion *practices* are enacted is scarce (Kujala et al., 2022).

The OS literature (Hautz et al., 2016; Whittington et al., 2011) offers a promising framework to analyze stakeholder inclusion practices in the strategic development phase because of its extensive focus on transparency and inclusion, two essential components of open organizing principles (Splitter et al., 2022). The OS literature would also benefit from a detailed exploration of cases in which stakeholders either contributed throughout the strategizing process (from idea generation to goal definition and decision-making) or participated beyond the bounds of an OS project (Luedicke et al., 2017). Therefore, in this research, we explore how stakeholder inclusion practices unfold in the strategic decision-making phase of a smart city development initiative.

We empirically investigate the case of stakeholder inclusion in the open strategizing process of smart city development with a participatory action research design building on 114 interviews and four stakeholder workshops during the formulation, development, and implementation of the urbanization strategy for Da Nang City in Vietnam. Based on the Vietnamese smart urbanization program, the state-approved Resolution 43-NQ/TW/2019, dated January 21, 2019, mandates that Da Nang will transition to a sustainable smart city by 2030. The Da Nang Smart City initiative is

2

based on five pillars: smart governance, smart economy, smart environment, smart life, and smart citizens. We honed our focus in on the Da Nang Food Smart City (FSC) program, an initiative operating across several of these pillars.

Positioning our study at the nexus of OS and SE research contributes to a better understanding of inclusion practices (Splitter et al., 2022) by exploring activities that stakeholders undertake throughout the strategizing process. Our results primarily contribute to the broader discourse on organizing for smart city development. We demonstrate the "how" of planning for smart city development by a) advocating for an inclusive approach that combines top-down and bottom-up strategizing practices, and b) advocating for a combination of decentralized decision-making principles that promote transparency and inclusion. Our study concludes with a framework that could serve as a guideline in a context in which stakeholder inclusion at the planning phase is necessary to achieve systemic change.

2. Theoretical Background

2.1 Smart City Food System Development

Smart city initiatives encompass multifaceted and diverse actors, artifacts and activities in an effort to cultivate an environment conducive to reconfiguring existing sociotechnical settings in terms of smart city advancements (Mora et al., 2021: 4). These initiatives are intended to improve the living environment with smart policies, practices, and technologies dedicated to serving citizens. A significant body of research regards smart city initiatives as innovation processes within the context of urban transitions (Ooms et al., 2020; Mora et al., 2023), wherein collaborative efforts among actors focus on creating an environment for co-learning and innovation (e.g Dolmans et al., 2023), integrating new technologies into existing practices (e.g Meijer and Thaens, 2018), and addressing institutional challenges arising in the process of sociotechnical adaptation (e.g Carvalho, 2015; Raven et al., 2019).

The attention of scholars in organizational studies has been captured by the management and governance of smart city initiatives. Here, scholars delve into various aspects such as organizing arrangements, organizational implications, and dynamics (Thabit and Mora 2023). This valuable literature contributes to a deeper understanding of the interdependencies of system elements. Interdependent elements can include actors, artifacts, and activities, (e.g. Varró and Bunders, 2020) as well as decision-making processes (e.g. Royo et al., 2020), leadership practices fueling smart city initiatives (e.g. Sancino and Hudson, 2020), and SE practices (e.g. Ouweland et al., 2023).

Organizational studies researchers pay considerable attention to the process by proposing various collaborative structures to facilitate actor engagement (Ouweland et al., 2023; Mora et al., 2018) They also pay attention to outcomes by providing empirical evidence of the impact of SE in the process (Gupta et al., 2023). In the context of smart city development, what requires further attention is analysis of how these practices are enacted, rather than assuming the positive impact

of engagement of actors and sectors on the outcome (Thabit and Mora, 2023). Moreover, smart city scholars emphasize the importance of drawing attention to collaborative dynamics among actors within the same sector. They advocate for implementing complex collaborative processes in both intra-sectoral and cross-sectoral arrangements (Thabit and Mora 2023; Gutiérrez et al., 2016).

In emphasizing a sectoral focus, there have been limited efforts to integrate urban food systems into the smart city context. Indeed, if the essence of smart city development is enhancing human experience, then the intricacies of "how, where, and why we feed ourselves are fundamental aspects ingrained within that experience" (Thornton et al., 2020). Research shows that a city attains a "smart" designation concerning its agri-food systems when digitalization facilitates the democratization and inclusivity of its value chain principles (institutional, physical, social, and economic) (Maye, 2019; Deakin et al., 2019). When reflecting on the planning of smart city development, especially regarding food systems, it is crucial to ensure alignment with the genuine needs of local communities. This entails actively embedding SE processes within the planning framework. Thus, stakeholders help shape the context by making decisions that establish the strategic direction of smart city initiatives and guide their implementation (Beckers et al., 2023). To gain a clearer understanding of SE in decision-making and strategy formation stages, it is essential to explore the intersection between SE literature and the OS domain (Splitter et al., 2022).

2.2 SE for Smart Cities' Food System Development

Stakeholder engagement (SE) "refers to the aims, activities, and impacts of stakeholder relations in a moral, strategic, and/or pragmatic manner" (Kujala et al., 2022). According to Kujala et al. (2022), the process of SE encompasses moral, strategic and pragmatic bottom-up approaches. Examples of such approaches are the inclusion of marginalized stakeholders' voices (Davila et al., 2018; Harclerode et al., 2016), the creation of a space to establish formal and informal social institutions that enable bilateral communication (Davila et al., 2018), and the fostering of environments where co-creation through collaboration and dialogue is practiced (Papagiannakis et al., 2019; Shackleton et al., 2019).

While research has emphasized the benefits of SE processes for progressing in any transition initiatives (Frantzeskaki and Shiroyama, 2018; McDonald et al., 2018), a comprehensive understanding of the complex dynamics of SE still eludes researchers. This difficulty in understanding SE's big picture is due to the coexistence of mechanisms such as strategic planning, sensemaking, knowledge-sharing, and power dynamics, as well as the inability of a single theory or discipline to explain the phenomenon (Kohler et al., 2019). Indeed, in the context of smart city development, the role of diverse actors (citizens, governments, research institutes, firms, NGOs, and public organizations) becomes increasingly evident in the creation of new products and services to improve quality of life through smartification (Beckers et al., 2023; Letaifa, 2015; Ferraris et al., 2018).

At the societal level, the SE process involves dynamics such as developing shared views, fostering trust, and facilitating joint learning to initiate collaborative actions for change (Rhodes et al., 2014; Senge et al., 2007). Within this framework, the significance of stakeholder dialogue and its impact on learning, conflict resolution, and aligning interests are notable (Pruitt et al., 2005; Van de Kerkhof, 2006). Similarly, Freeman et al. (2017) outline three integral elements of the SE process: assessing stakeholder relations, engaging in communication with stakeholders, and learning alongside stakeholders. Acknowledging and reconciling stakeholders' interests and motivations within this process is essential for the integration of these elements (Heikkinen et al., 2019). This necessitates the "fair and full" involvement of stakeholders, considering both the positive and negative aspects of SE processes (Calton and Payne, 2003; Kujala et al., 2022).

SE is characterized by an aggregation of social interactions amongst actors addressing a core problem (Kujala et al., 2022). SE at the societal level leads to numerous positive outcomes, such as innovation development, value co-creation, synergistic value creation, and socio-behavioral change (Mont et al., 2014; Watson et al., 2018; Watson et al., 2020). These favorable outcomes are conditional on how stakeholder inclusion practices are designed and facilitated. The lack of a socially interactive and iterative space would hinder the transition because each stakeholder interprets the outcome of the engagement process differently (Rühli et al., 2017).

Although the benefits and determinants of successful SE practices at the societal level are clear to researchers, Gonzalez-Porras et al. (2021) call for a deeper analysis of the underlying dynamics that facilitate learning processes and result in resolving stakeholders' conflicting interests. Understanding this complex process hinges on contextual and socio-cultural factors, alongside a focus on distinct stages of the transition where SE processes are integrated. Given our focus on the planning and strategy formulation stage of smart city development in terms of the FSC program, and our aim to ensure comprehensive understanding of stakeholder inclusion practices, integration with the OS framework becomes imperative (Splitter et al., 2022).

2.3 OS and Stakeholder Inclusion

OS is a set of processes and practices intended to increase transparency and inclusion regarding strategy-making by engaging internal and external stakeholders (Hautz et al., 2017, p. 298; Whittington et al., 2011). Open strategizing, within and beyond organizational boundaries, contrasts with the strategy-making traditionally practiced by corporate elite decision-makers. As a process, in OS, "…companies actively co-strategize and experiment with multiple stakeholders in line with a comprehensive architecture for staying connected with the world" (Doz & Kosonen, 2008, p. 75). As a practice, OS implies knowledge and information exchange with external actors through a combination of open approaches within a multi-stakeholder setting (Chesbrough & Appleyard, 2007). The OS framework was developed in the strategic management discipline with an emphasis on the private sector at the firm level. Its recent extension is focused on open organizing to address major societal challenges (e.g., Diriker et al., 2022; Luedicke et al., 2017; Dobusch et al., 2019; Brielmaier and Friesl, 2023).

Transparency and inclusion are the main components of the OS framework (Whittington, 2011). Transparency in OS can range from "free accessibility to project results by external stakeholders"

(Appleyard & Chesbrough, 2017) to "revealing and broadcasting relevant information" (Gegenhuber & Dobusch, 2017). Thus, what organizations commonly refer to as transparency includes actively sharing information and allowing others to access it freely. When it comes to inclusion, we observe different interpretations, such as relying on external information as a result of stakeholder consultation (e.g., Appleyard & Chesbrough, 2017), stakeholders' involvement in decision-making processes (e.g., Baptista et al., 2017), "utilizing information technologies for participation and crowdsourcing" (e.g., Hutter et al., 2017; Malhorta et al., 2017) and "real/radically participating in strategizing processes" (e.g., Mack & Szulanski, 2017; Luedicke et al., 2017). Following Splitter et al., (2022), we agree that transparency and inclusion should be viewed as interdependent and ongoing rather than as binary concepts. Without transparency, inclusion risks becoming superficial, rendering decision rights meaningless. Without inclusion, transparency can become incomplete.

Inclusion refers to the engagement of an individual in an organization's strategic conversation. It includes information, knowledge, views, and proposal exchanges to shape the continued evolution of an organization's strategy (Mantere & Vaara, 2008; Westley, 1990). In the OS literature, participation and inclusion are differentiated by a fine line, but are often used interchangeably (Quick & Feldman, 2011). Considering this nuance aids in our understanding of the spectrum between fully open and closed strategy-making processes. A fully inclusive process involves engaging stakeholders in workgroups or task forces, facilitating information sharing, interactions, and joint decision-making. This fosters a growing sense of community and belonging over time, extending beyond mere information-sharing to establish sustainable communities of interacting stakeholders (Mack and Szulanski, 2017; Hautz et al., 2017).

Including stakeholders in the strategy-making process for societal problems introduces four main challenges to overcome suggested by Rühli et al. (2017). First, there could be an imbalance in stakeholders' relational capability to participate in solving problems. Another challenge is that stakeholders' conflicting interests could lead to a lack of concession. Third, the complex nature of the problem, which entails uncertainty in outcomes and ambiguity in time investment, presents another challenge. Finally, overlooking the problem and solutions can occur due to information overload (Frooman, 2010; Gottschalg and Zollo, 2007; Lingo, 2022; Rodolff, 2008). Implementing stakeholder inclusion practices that imply active and iterative commentary on and evaluation of ideas that contribute to forming a sense of community could address these challenges (e.g., Schmitt, 2010; Aten & Thomas, 2016; Luedicke et al., 2017). Through our action research approach, we recommend following a three-stage open strategizing process as suggested by Schmitt (2010). These stages are issue framing, arena shaping, and credibility building. The strategizing process is then followed by a coordinated governance approach enabling dialogue, sensemaking, and balanced participation. In our study, we examine the inclusion practices of stakeholders in strategy-making processes for developing a smart city's food system initiative.

3. Method

3.1 Research Case

Our research case was the development of the Food Smart City (FSC) strategy in Da Nang, Vietnam. It was a consultancy project called "Setting the Scene to Become a Food-Smart City: Food Value Chain and Policy Analysis in Da Nang City." The project was funded by the Belgian Development Agency and implemented from March 2018 to February 2019 by Da Nang Food Safety Management Authority (FSMA) in collaboration with the Vietnam National University of Agriculture (VNUA) and Rikolto International, a food security organization. It addressed the city government's need to develop Da Nang as a smart city by 2030, as indicated in the state-approved Resolution 43-NQ/TW/2019, adopted January 21, 2019. The smart city should have five pillars: smart governance, smart economy, smart environment, smart life, and smart citizens. Food safety is one of Da Nang's priorities. The resolution enables the city to specify actions and tasks concerning smart food development. This is part of the development vision for the city, as required by the municipal government and its agencies.

The FSC initiative in the Da Nang Smart City program was selected for three reasons. *First*, smart cities represent one of the most complex challenges of the 21st century. Smart city planners grapple with issues like ecological sustainability, equitable economic growth, and societal advancement. These demands necessitate localized interventions and strategies to achieve their objectives (Mora et al., 2023). Such circumstances offer a compelling context for examining the OS process from a societal-level perspective.

Second, food safety is one of the priorities of the FSC initiative, and the Da Nang city government has taken drastic measures to strengthen food governance. As an agency belonging to the city council, the FSMA was established according to Decision No. 1268/QĐ-TTG of August 25, 2017. FSMA is subject to the direction, management, staffing, and work of the City's People's Committee (CPC). At the same time, it is professionally managed, guided, checked, and inspected by the Ministry of Health, the Ministry of Agriculture and Rural Development, and the Ministry of Industry and Trade. The CPC assigns the FSMA to 1) advance the research environment and monitor and warn of food safety hazards, 2) develop solutions to handle situations arising in the production and trade of food that affect food quality and safety, and 3) collaborate with national and international organizations researching food safety. However, FSMA has not yet formulated a long-term organizational strategy to fulfill its functions effectively and contribute to making Da Nang one of the best Vietnamese cities to live in. These contextual elements and urgent needs of the FSC strategy promise a unique analytical case for investigating stakeholder inclusion practices at the system level with the presence of diverse stakeholders.

Third, two Vietnamese researchers were fundamentally and structurally involved in the OS process. Throughout the process, they co-designed and facilitated a series of sensemaking activities, reinforcing every stage to ensure the meaningful engagement of a wide range of stakeholders through workshops and interviews. This stakeholder setting ensures the accessibility to, and quality of, a reliable dataset collected from a whole dynamic strategizing process. This data accessibility speaks to the transparency component of the OS process.

3.2 Action Research: Process, Stakeholders, and their Roles

Analyses of stakeholder inclusion practices necessitate an approach that is sensitive to the OS process, the multi-stakeholder setting, and the context in which engagements are embedded. For credibility, analyses must rely on intensive engagement that enables the OS process to occur, providing access to rich, detailed understanding and insights into the process and the specific context. Involving relevant stakeholders and facilitating their engagement in the OS process are necessary to activate stakeholder inclusion practices. They are also critical for both researchers' and stakeholders' ability to understand situations, reflect on the roles during the engagement process, and address issues that arise during the OS process. Furthermore, leveraging stakeholders' interests, comparative knowledge, innovation, and resource advantages is necessary to establish the foundation and space for inclusion. Finally, the analyses presented here have evolved through direct and repeated interactions between stakeholders and ourselves as researchers, configuring an ecosystem to facilitate the OS process and shape stakeholder inclusion practices. The analyses were central to the action research approach (Lewin, 1946; Elden and Chisholm, 1993; Dickens and Watkins, 1999) to enhance stakeholders' and researchers' understanding, engagement, and facilitation of the OS process. Diverse actors undertaking various roles co-designed and implemented the action research process for the FSC strategy development (Table 1).

Researchers were professionals from the Vietnam National University of Agriculture (VNUA) and Rikolto International, who have been implementing research and development interventions targeting food systems, food safety governance, and FSC. They have been trained in stakeholder inclusion practices for SE and undertook multiple roles of knowledge brokers, facilitators, and innovators in the OS process, as shown in Table 1.

Table 1 about here

Institutional participants included FSMA—an institutional participant—responsible for coordinating the FSC strategy process and mobilizing and guiding the engagement of other participants. They also included other governmental departments in Da Nang, such as the Department of Industry and Trade, the Department of Science and Technology, the Department of Finance, and the Department of Education and Training. Their roles were to reflect and approve the final FSC strategy and articulate the action plan into their operation and mandates.

Key individual participants (KIPs) are the director and vice-director of the FSMA, who steer the entire FSC strategy process through interacting with researchers and mobilizing the city's SE. Their roles are critical to making essential decisions throughout the OS process, such as how to harmonize expectations among stakeholders for the FSC strategy, adapt participatory methods to fit the working cultures of the stakeholders, and strategize the engagement process to increase stakeholders' buy-in to and ownership of FSC strategy.

Broad participants are farmers, farmer cooperatives, private sector players in the food industry, food distributors, individuals and consumers, and representatives from research organizations, universities, NGOs, and government agencies. These actors participated in the interviews and

8

workshops to prepare the Da Nang Food Smart City development strategy. *Broad participants* refer to stakeholders with similar roles, influence, and power in the engagement process.

A qualitative dataset, including two primary sources, was collected throughout the action research process (Table 2). From October 2018 to February 2019, 114 semi-structured interviews were conducted with all stakeholders involved in the FSC strategy development process, covering their opinions about current practices in the city's food system and the FSC. Four consultation workshops were co-organized by professional organizations and the FSMA with the participation of relevant stakeholders to share an understanding of the city's food system, formulate the FSC strategy, and approve the developed strategy.

Table 2 about here

3.3 Operationalization of the OS Process

Our use of OS followed a three-stage strategizing process inspired by Schmitt's (2010), followed by an additional stage of coordinated governance enabling sensemaking, adapted to the Da Nang case (Table 1). *Issue-framing* included activities such as listening, learning, and empowerment. This created a balanced and equal understanding of the issue for stakeholders to construct a frame for FSC strategy. "Issues," in this sense, are complex and interdependent food safety problems. No off-the-shelf solutions exist. Issues connect stakeholder groups who would otherwise not gather to address them. Listening and learning refer to how various stakeholders interpret the issue. Empowerment indicates that capacity-building activities are well-managed considering stakeholders' diversity and institutional backgrounds.   The researchers acted as knowledge intermediaries and translators, making research and practice more mutually accessible. They collected data, analyzed information, and synthesized insights about Danang's food system's context, governance, management, and innovations. They shared all this with the stakeholders. They also engaged in multi-domain research and crossed practical boundaries to contextualize theories and insights and use them to frame the FSC strategy.

The outcome of the issue-framing stage yielded a conceptual model for FSC, developed with stakeholders, encompassing aspects important to them and achieving consensus on the context (Figure 1). The background for FSC development is determined by natural, socio-economic, cultural, organizational, and management conditions at multiple global, national, and city levels. Smart cities reflect comprehensive investment strategies manifested in participatory urban food governance (the process of making decisions on food management with citizens and stakeholders), technology (innovations in food value chain functions), and business (investment environment, business culture, and business types that can bring sustainable growth to the food system). By leveraging insights from FAO's definition of FOOD system (Nguyen 2018), researchers facilitated stakeholders to reach a consensus on the Danang food system. This consensus encompasses three key dimensions: value chains, the food environment (encompassing socioeconomic, cultural, and political factors affecting food accessibility and availability in the area), and consumer behavior.

These three dimensions shape the outcome of the city food system in terms of nutrition and health, socio-economic impact, environmental sustainability, and durability of the system.

Figure 1 about here

Arena-shaping recognizes the necessity of common areas of dispute in physical or virtual settings. Roundtables, virtual discussion forums, and focus groups are practical examples of arena-shaping. Arena-shaping includes two sub-strategies: criteria-setting and structuring. Criteria-setting refers to the criteria or rules the organizer sets for participants according to which the engagement process should take place. For arena-shaping and refining the Da Nang FSC strategy, researchers and KIPs further analyzed, synthesized, and compiled the first draft of the FSC development strategy for Da Nang based on the inputs from Step 1. The strategy was submitted and received feedback from stakeholders in Da Nang. A third workshop was organized to 1) share the approach adopted in the strategy development process and the experiences in implementing the project, and 2) consult with strategic stakeholders to transfer the strategy. Researchers and KIPs used the comments from the consultation workshop to finalize the strategy. At this stage, the researchers served as knowledge brokers, strategy co-developers, and facilitators, fostering the translation of operational research and tacit knowledge into practical application. They facilitated the co-creation of knowledge and enhanced its utilization for the FSC strategy. Working alongside the city's stakeholders, they collaborated in designing and strategizing the FSC strategy, reflecting on and translating research-generated evidence into innovative strategic options, and integrating best practices and innovations into the action plan.

Outcomes from the arena-shaping were translated into seven objectives in the FSC strategy: 1) Completing the organizational structure of the food safety management system and improving capacity for food safety management; 2) Developing and promoting innovation and technology for food management; 3) Fostering sustainable production and business culture and increasing the competitiveness of food system actors; 4) Promoting sustainable value chain links through a focus on safe, short food chains and organized supply from external provinces; 5) Promoting the development of a safe food environment in traditional food outlets; 6) Developing school education programs on food safety and nutrition; and 7) Promoting information-sharing and communication on food safety and food systems through improved data management and behavioral change communication.

Credibility-building refers to an organizer's activities in which stakeholders accept all the organizer's decisions from previous stages. It also means the organizer must be reliable throughout the process and apportion accountability to all stakeholders. For Da Nang, this stage included confirming and owning the FSC strategy. The FSMA organized the fourth workshop with other institutional participants who represented relevant city government agencies to present the strategy and translate it into an action plan.

Sensemaking/reality-reinforcing was essential for participants to understand all practices during open strategy creation. During the credibility-building and sensemaking processes, the researchers

10

functioned as strategizing brokers and facilitators, exerting influence on broader stakeholders and contexts, and fostering ownership and commitment among Da Nang stakeholders to institutionalize the FSC strategy.

Throughout these steps, researchers worked closely with the KIPs to address stakeholders' questions and concerns about the FSC concept, reflecting on global FSC evidence, and the relevance of the FSC to Da Nang. See Table 3 for examples of the KIPs' questions and concerns and researchers' responses. These dialogues allowed for shaping and re-shaping the FSC model and contextualizing and localizing the FSC development strategy.

3.4 Methodological Considerations

We applied several strategies to ensure adaptive, responsive, and ethically responsible action research (Greenwood et al., 1993; Stern, 2013). We conducted concurrent analyses at various stages of strategy development. These included exchanging local food system knowledge and understanding FSC concepts and interventions. We also co-created a common understanding of the FSC and translation of the concept into a detailed strategy with an implementation plan and follow-up actions. In addition, we reflected on and contextualized the FSC concept and the design and organization of the strategy development process. Furthermore, we regularly analyzed data collected during the interventions to understand the micro-dynamics of inclusion better. In doing so, we could adjust the analysis and engagement processes to achieve the fundamental inclusion of stakeholders. Our interpretative analysis supports the assumption that social reality is best studied in its social context. We carefully documented the progress of the OS and decision-making processes involved, which enabled us to reflect on the outcomes of our activities. To avoid bias during the OS process, we developed a hybrid outsider-insider positionality, enabling us to span various worldviews, educational backgrounds, and professional experiences and practices. Thus, we constructed divergent understandings of FSC concepts and had the flexibility to engage with and facilitate the OS process. Finally, by incorporating the results of continuous activities, stakeholder inclusion practices, and corresponding outcomes, we developed a conceptual framework for practicing radical inclusion for FSC strategy development. Two external researchers (who were not engaged in the action research process) examined and evaluated the analysis to ensure the validity and reliability of the interpretations.

4. Findings

In this section, we identify four interrelated practices that enable the radical inclusion of stakeholders who drive the OS process at the societal level: 1) trust formation and translation, 2) language adaptation, 3) role transformation, and 4) expectation alignment. These practices emerged from the radical inclusion of stakeholders at four stages of the open strategizing process: issue framing to *construct* the strategy, arena shaping to *refine* the strategy, credibility building to *confirm* the strategy, and sensemaking to *rationalize* the strategy. Following this, we illustrate how every inclusion practice emerged. Table 3 represents examples of the data illustrated for each practice.

Table 3 about here

11

4.1 Trust Formation

Our analysis shows that the researchers' facilitation of continuous sharing, consulting, and co-developing the FSC strategy led to trust formation between researchers and participants. Trust formation has achieved desirable outcomes, as we show in Table 3.

In the *framing*, researchers prepared and introduced the idea of stakeholder inclusion practices and the design of the Da Nang food system analysis with KIPs in the FSMA. The researchers consulted the KIPs on how stakeholder inclusion practices should occur in the Da Nang context. This consultation led to a safe sharing space where the researchers learned about the formal procedures and practices required and approved by the government. They also learned that their initial design of the Da Nang food system analysis was suboptimal. This was due to time limitations, lack of human resources, and insufficient financial support dedicated to conducting the analysis. At the same time, the KIPs realized that consulting with stakeholders underpins the development of stakeholder inclusion practices, and the formal procedure for strategy formulation. As expressed by one KIP:

"The so-called participatory strategy development approach used by Western countries and the strategy development used in our government system [are different types] of stakeholder's consultation. We [the government system] do not call it 'stakeholder consultation' but 'asking for opinions.' We normally ask for opinions from government agencies, mass organizations, and citizens' representatives only when the strategy is written [and developed] in good shape. The 'asking for opinions' is mainly for informing about the strategy. Involving stakeholders right at the beginning of the strategy development is not something we do here, but we might try it at a certain point."

A *mutual understanding* of why the participatory strategy process and SE are necessary and how these should be organized and facilitated was achieved when the researchers and KIPs agreed to three necessary processes: 1) the way to organize four successive SE workshops; 2) specific actions to involve stakeholders in the data collection; and 3) the first engagement workshop (see Table 1). Based on this agreement, the FSMA assigned four staff members to support the Da Nang food system analysis with data collection and the participants' sensemaking of the strategy process so that stakeholders' participation was acceptable to the government:

"[It] ensures that stakeholders' participation is administratively and culturally acceptable to the city government and its agencies. It is necessary to organize the first workshop to share the results from the Da Nang food system analysis, and the second workshop on 'Participatory strategy formation for food smart city development' together, one right after another." [KIP]

In the *refining stage*, the researchers leveraged the "sharing and consulting" in the second and third workshops to engage participants in refining the FSC strategy (see Arena Shaping in Table 1). The engagement created *maneuvers* enabling questions about the relevance and feasibility of the 13 options for the FSC strategy, which was derived from a SWOT analysis of the food system and smart city factors. This opened the risks of irrelevance of those identified options. At the same

12

time, it constituted moments for reflecting and reformulating the strategic objectives and solutions in the context of Da Nang's development orientation as stated in Resolution No. 43-NQ/TW/2019 of the Politburo. As a result, the participants agreed with the seven strategic objectives that are relevant and feasible for the Da Nang FSC strategy. Furthermore, the researchers facilitated the exchange of diverse ideas and knowledge, recognition of contributions, and reliance on others' expertise. At the same time, broad participants shared and reflected on their experiences with food safety management and interventions to refine the FSC strategy and its action plan. These practices opened a *constructive learning* space that encouraged the discussion of the theoretical and practical aspects of the FSC strategy. This exchange, in turn, resulted in acceptance and empowerment for both broad participants and researchers. These outcomes encouraged individuals in the early phases to commit to the process and trust the guiding researchers, thus creating a collaborative ecosystem for the FSC strategy development in Da Nang.

The constructive learning and maneuvers also yielded a mutual understanding of the FSC framework in the *rationalizing step* when both participants and researchers had a clear road map for how to use the framework in the next stages. These stages were 1) reflecting on contextual factors and preconditions for building an FSC in Da Nang, 2) constructing scenarios and strategic orientation for the FSC development, and 3) identifying and agreeing on goals for the FSC development. Although the theoretical FSC framework was still abstract in its application to Da Nang, participants started seeing the guiding role of the framework, as well as the *sense of belonging* in the process, as expressed by participants.

In the *confirming stage*, the KIPs and FSMA took the initiative to hold and lead the 4th workshop, as expressed in their opening keynote: "With the facilitation of the researchers, we developed an FSC strategy for Da Nang. Now we see that the strategy is for us, and we must proactively change it into actions. Today, eleven departments from the CPC gathered here to verify and take up the strategy" [KIP]. This reflects the reliable engagement of key individual and institutional participants (KIIPs) gradually developing and yielding in the confirming step. Furthermore, FSMA showed its accountability in facilitating the institutional participants in the fourth workshop to reflect on the need to specify results and activities in each strategic objective that matched resources available in the government system. FSMA also facilitated the institutional participants to identify the priorities needed to optimize the impact of different departments' roles in the FSC strategy implementation. Finally, FSMA addressed the institutional participants' misinterpretation of the researchers' roles and responsibility in strategy development and implementation. As stated by the FSMA representative in the fourth workshop: "The experts [*researchers*] have worked with us, guiding and facilitating the process to develop the FSC strategy presented in this meeting. This strategy is for Da Nang, and we—the city's management departments—are responsible for actualizing it." [KIP]. Such accountability gives energy to legitimizing and implementing the FSC strategy by the city's authorized departments.

4.2 Common Language Creation

We found that researchers' flexibility in adapting their language to the participants' language and altering any term that might be confusing or create reluctance in participants' motivation to

participate were critical for efficient communication. The researchers' role was to facilitate the participants' translation of the strategy into their understanding. They employed these practices in all steps of the FSC strategy development. The language adaptation process started when participants experienced difficulties understanding the FSC framework's theoretical terminologies (*Constructing*). This confusion resulted in ongoing conversations and Q&A sessions after each presentation. When confusion remained, researchers prevented further reflection by participants on the strategy process and the implementation of key concepts in the FSC framework. One participant expressed it as follows:

> *"The presentation about the theory/framework is necessary; however, the presentation seems hard to understand for most of us. We need concrete definitions, explanations, and examples of a food-smart city developed somewhere in the world to imagine how it looks. While the theory is comprehensive, many terms are unclear and confusing. Some key terms, such as 'food smart city,' 'green food,' and 'inclusive and resilient food system,' are new and hard to understand for us, who mainly work with practical things. How can we discuss and contribute ideas if we do not understand these terms?" [KIP].*

With a few rounds of iteration, the researchers created a common language with the participants, tailored to their understanding rather than that of the researchers. The researchers illustrated the theoretical FSC framework with a case of FSC development in Ghent, Belgium. In this example, the city aimed to reduce the CO_2 impact of the food chain and make the food system more sustainable by creating a more transparent and shorter supply chain, supporting sustainable food production and consumption, increasing the social added value of food projects, and avoiding food waste. Sets of specific interventions implemented by Ghent City clarified what the FSC means in practice. The case inspired the participants to *refine* the FSC strategy. Specifically, the participants appreciated the practicality of many instruments, such as 1) establishing a cooperative online platform for retailers, catering companies, industrial kitchens, and local farmers; 2) supporting start-ups that reuse food waste; 3) promoting community-supported gardens; 4) enhancing healthy, safe, and sustainable food at school; and 5) establishing a food policy council to assist the city government with the vision for sustainable food production and consumption.

Language adaptation reduced the knowledge gap and mitigated the risk of conflicting understanding and interpretation in the inclusion practice. An outcome of the common language creation was the translation of the FSC strategic vision by one individual participant into vocabulary that was understandable for all stakeholders, which occurred in both *confirming* and *rationalizing* steps:

> *"The Da Nang food smart city can be defined as a smart and sustainable food system to ensure a nutritious and diverse food supply, provide high quality and safe food to consumers, sustain long-term benefits for food producers and traders, and reduce the negative environmental impact. This calls for access to safe, high-quality food for every citizen, traceability of most of the food consumed, adoption of good practices for food safety and sustainable business by food system actors, a food management system that meets food safety and food management*

14

requirements, and technological innovations to be effectively applied, supporting food safety management agents and improved capacity." [Broad participant].

In the FSC context, engaging all stakeholders is easier said than done. Often, strategy documents contain complexities that are difficult for laypeople to understand. Language adaptation and iteration are necessary for successful communication in practicing radical inclusion for strategy development at the city level. These language adaptation practices created a sense of ownership among participants and triggered commitment during all the process stages. The flexibility of the researchers in this context played an essential role in the project's success.

4.3 Expectation Alignment

Analysis shows that understanding and negotiating expectations leads to aligning them, forming a shared identity as a community. The mechanism of expectation alignment appeared organically as different individuals sought common goals for developing the FSC. One example is researchers and participants working together toward aligning the FSC strategy. In the *constructing* and *refining*, researchers set high expectations for the comprehensiveness and inclusiveness of the FSC strategy that could be developed based on the Da Nang food system analysis, together with insights gained from the participation of Da Nang stakeholders. (SeeTable 3). For us as researchers, these expectations were pre-conditions for the feasibility and relevance of the strategy.

Meanwhile, the participants from Da Nang, especially KIPs, expected researchers to develop a strategy to help them only with current issues concerning food safety management. For the KIPs, such a strategy was a safe option, as it fit their mandates and the city's governance system. Both parties, however, understood the rationale of the other's expectations:

"We had understood that through this consultancy project, you will prepare a food safety strategy for us to submit to the City's People's Committee. But clearly, it is not your plan, as we can see now. Although our and your expectations for the project and how it should be implemented are different, we all agree that food safety management and safe food in Danang require FSMA and other departments to adopt a comprehensive view that includes multiple perspectives to advise the city government on its food policies effectively. Such a view must be visualized in a clear, feasible, and suitable strategy that addresses the needs of all actors in the food system and the burning issue of food safety." [KIPs].

Continuously *refining* and *confirming,* a common interest in developing the best "workable and meaningful" FSC strategy for Da Nang Smart City was also gradually realized from a series of formal and informal intensive dialogues between researchers and KIIPs. Such understanding and interest resulted in a joint effort to develop a strategy with "something from the existing good practices in Da Nang, and something new that comes from examples such as Ghent and other cities that have been putting toward the smart city food system" [researchers].

Another example of the development of expectation alignment came from the participation of representatives from the CPC in the strategy process. Researchers raised CPC's expectations of the active participation of all participants and CPC representatives to enhance the feasibility and

uptake of the strategy. Meanwhile, a few participants expressed concerns regarding the participation of CPC representatives in the strategy development process:

"In general, a strategy should be developed by experts. The participation of relevant stakeholders and representative(s) from the city's People's Committee is not officially acceptable. According to the city's administrative procedure, the People's Committee approved developing the food smart city strategy before the process started. The strategy is then submitted to the People's Committee when ready. The involvement of the People's Committee during the process is not in the official procedure." [KIP]

Researchers utilized their networks to resolve KIPs' reluctance to do something uncommon to the official procedure. They found new ways to approach CPC representatives to inform them about the strategy process. Furthermore, researchers and KIPs created an open and voluntary option for CPC representatives to participate in every workshop in the strategy process. These joint efforts resulted in the CPC representatives' participation in the third and fourth workshops for *refining* and *confirming* the FSC in a short but adequate period for them to decide on implementing the strategy.

The discovery and alignment of expectations were present in all process stages. One practice might differ, as participants' expectations changed across different stages. The alignment was continuous throughout the four stages as participants entered new areas or modified previous ones, as shown in Table 3. This indicates that during the step of *refining* the FSC strategy, expectation alignment resulted in the participants' contributions and ownership of the FSC strategy. This was accompanied by learning from examples and creating new ideas that fit the Da Nang situation.

4.4 Role Transformation and Flexibility

In our analysis, we identified various roles that had transformed researchers, KIIPs, and broad participants during the OS process as all actors learned and thus modified their actions. Researchers' roles were initially designed to lead the conceptualization and development of the FSC strategy, facilitate the stakeholders' participation, and contextualize the strategy throughout the four steps in the strategy process, as Table 3 shows.

The researchers intended to lead the *construction* step, , as agreed upon before starting the process. With this vision in mind, they began by driving the construction of the FSC strategy. Specifically, they framed the FSC concept and designed and implemented the food system and policy analyses. A turning point occurred when the leading role became a knowledge brokerage role after the researchers realized that the participants had become interested in the FSC strategy development. From that point on, the researchers worked to integrate participants' interests into concrete ownership and commitment through 1) opening dialogue space and facilitating interactive learning between researchers and participants and amongst participants, 2) creating shared meanings for the FSC strategy, and 3) adapting language and expectations to articulate the participants' interests and engagement into the strategy process. These enabled the KIIPs to co-design and co-facilitate the SE to localize the strategy process. Additionally, the broad participants contextualized the FSC framework by reflecting on reality to identify factors, conditions, and strategic options for the FSC.

16

In the *refining* step, researchers added to their facilitation roles the acts of cultivating and empowering KIIPs' ownership of and commitment to the FSC strategy process. They did so by incentivizing dialogues to co-design the second and third workshops to engage broad participants and integrate their needs, interests, and perspectives into the refining FSC strategy. Through dialogues and interactions during the preparation of the second and third engagement workshops, researchers and the KIIPs illustrated the comprehensiveness of the FSC concept by giving real examples, along with existing needs and practices. During the workshops, participants explained their understanding of concepts and goals to each other and the researchers. This practice resulted in collaborative sensemaking throughout the workshops. At the end of the workshops, participants could describe, explain, and interpret the concept of FSC and its strategy elements. This shaped a collective understanding of food safety-related problems and ownership of the solutions proposed to solve the problems. For participants, these activities changed their passive participation (under the leading role of researchers) into active engagement, through which participants concretized their ownership of the FSC strategy and their commitment to the strategy's implementation. KIIPs' ownership of the FSC strategy showed through their taking the lead on consolidating the FSC strategy (see Table 1) and designing and organizing the fourth workshop to confirm the strategy.

In the *confirming* step, done in the fourth workshop, KIIPs led, leveraging the mutual understanding of the FSC strategy and how to translate it into action plans. KIIPs also facilitated institutional participants' internalizing the interdisciplinary nature and feasibility of the FSC strategy. They did so by specifying resources and responsibilities needed and discussing coordination mechanisms for implementing strategies. As observers in the workshop, researchers witnessed the transformation of the institutional participants to collective owners who were committed to the FSC strategic goals. As a result, they integrated the FSC into their upcoming practices while raising the importance of contextualizing the FSC concept for all actors.

We also identified several practices at different stages of open strategy-making processes that enabled the *rationalizing* of participants. Interestingly, in the later stages, although researchers provided less contextual information, participants could still make sense of the concept, interpret it, and communicate their preferred strategic direction. Researchers helped participants make sense of information step-by-step in the process. Finally, this continuous sensemaking of the information helped participants reflect on the importance of the collaborative decision-making process. A sense of ownership and commitment toward the project resulted.

4.5 Interdependence Between Stakeholder Inclusion Practices

Stakeholder inclusion practices do not stand alone during the strategizing process, but are interdependent and reinforce one another's impact(Figure 2). *Trust formation and language adaptation:* In the implementation of strategic initiatives, establishing trust triggered coordinated action, commitment, and actors' support. The outcome of interpersonal trust formation developed through social interaction among stakeholders. Cities are complex settings due to their diverse institutional norms and languages. Considering that the backbone of any interaction is trust and that the main tool for interaction is language, a misalignment in language could be a barrier to trust formation. Therefore, creating a common language among individuals leads to the formation of

17

trust between individuals and their organizations (See *trust formation and language adaptation* in Table 3 for examples).

From a societal-level perspective, multiple organizations address city-level issues, iterative sensemaking of the process, and the way to create trust in the initial stages. In the MSE process, actors likely have unequal access to the strategic context. The further the distance from the strategic context, the higher the difference in interpretation and evaluation. Language adaptation practices helped stakeholders move beyond interpersonal trust toward a collective institution-based trust.

Expectation alignment, role transformation, and autonomy: Originally, researchers intended to pass their leading role on to the participants. However, this role transformation could not occur until the expectations of the researchers, KIPs, and PC representatives about the comprehensiveness and newness of the FSC were aligned in the initial phases of the strategizing process. We found that flexibility in role transformations overcomes disruptions that occur through organizational misalignments. In our case, iterative dialogue between researchers and participants about expectations allowed for more autonomous actions by each actor.

Figure 2 here

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5. Discussion and Conclusion

By investigating the stakeholder inclusion practices adopted to develop a transition strategy at the societal level, we make a novel contribution to the field of stakeholder engagement in two ways: first, by creating a strong link between the OS and SE research fields (Splitter et al., 2022), and second, by enacting stakeholder inclusion practices at the societal level to address grand challenges (Kujala et al., 2022). To the best of our knowledge, our research represents the inaugural study that integrates three literature streams focused on the aspect of inclusion: open strategy (OS), stakeholder engagement (SE), and smart city developments. Our participatory action research allowed us an insider's view of the context of our fieldwork. We present theoretical and practical contributions based on our interpretative analysis of the data we collected during fieldwork, interviews, and workshops.

5.1 Theoretical Contributions

Our results primarily contribute to the broader discourse on organizing for smart city development. We demonstrate the "how" of planning for smart city development by a) advocating for an inclusive approach that combines top-down and bottom-up strategizing practices, and b) advocating for a combination of decentralized decision-making principles that promote transparency and inclusion. This directly addresses the call for more research on issues related to transparency, accountability, and power distribution in the smart city development research domain (Mora et al., 2023). Specifically, our analytical framework offers insights into navigating through the institutional plurality characterizing the context of a smart city, where multiple private and public actors' logics coexist during decision-making (Mair et al., 2015). Furthermore, our

results emphasize the importance of fostering stakeholders' sense of ownership of various practices, contributing to the discourse on collective leadership and smart city governance (Sancino & Hudson, 2020; Zhang & Mora, 2023). This underscores the collaborative, hybrid nature of the context (e.g., Bryson et al., 2017), highlighting the significance of inclusivity and stakeholder involvement in the initial stages of strategy formulation.

Our research sheds light on the underlying principles of stakeholder inclusion practices. Substantial involvement of stakeholders during the entire process of strategizing is conducive to tackling multiple challenges in the engagement process. Trust formation practices, achieved through transparent sharing and consultation throughout the process, increased relational capability (Rühli et al., 2017). These practices also decreased relational tensions, stemming from conflicting interests, by motivating stakeholders to engage in persistent problem-solving. Research indicates that a certain degree of relational tension persists when dealing with complex problems in multi-stakeholder settings (Kujala et al., 2012). However, our case demonstrated that continuous expectation alignment practices, intertwined with trust formation, role transformation, and the creation of a common language, represent the first step toward minimizing its negative influence. In addition, common language creation practices help overcome the challenge of information overload (Frooman, 2010; Gottschalk and Zollo, 2007; Lingo, 2022; Luedicke et al., 2017; Rodolff, 2008) by reducing stakeholders' knowledge gaps and creating a common narrative for the strategy framework. Similarly to Lingo et al. (2022), our result shows that stakeholder inclusion in the strategizing process is characterized by negotiation and evolution over time.

Inclusion as a component of open organizing is a process in which different inclusion practices are interdependent, reinforcing each other in reaching the common goal of strategy formulation. Building on the strength of OS literature, our findings underscore that stakeholder inclusion cannot happen without transparency (Splitter et al., 2022), highlighting the need for further attention in SE literature. We argue that investigating different components of SE (e.g., participation, inclusion, democracy, transparency) as stand-alone phenomena and in isolation is unlikely to improve theorizing in the field. This is due to the high interdependencies of all the components. Although our findings respond to the call by Kujala et al. (2022) for research on the pragmatic components of SE through an in-depth examination of its iterative process, they reveal little of the dark side of the engagement process.

In the OS literature, our research contributes to the general discourse on actors' misalignment, conflicting interests, and commitment dilemmas (Hautz et al., 2017). The commitment dilemma of OS arises when broad stakeholder participation in the strategizing process enhances commitment and motivation. However, increasing inclusion in general may jeopardize the commitment level from each individual. We respond to the commitment dilemma and echo the findings of Luedicke et al. (2017) and Mack and Szulanski (2017). In doing so, our results reveal that the radical inclusion of diverse stakeholders throughout the entire strategy process mitigates the risks of diminishing motivation in the outcome of the OS process. Indeed, if diverse groups and their wide range of preferences are included in a strategy, it is more likely that the strategy will be implemented.

19

Finally, our research responds to the call for more "cross-fertilizing" studies in the "open organizing" discourse (Splitter et al., 2022) by building a bridge between SE literature and the OS research domain. In doing so, we leverage the diverse learning opportunities offered by both domains to enhance our understanding of openness. We argue that a nuanced and detailed analysis of every component of openness in both domains, and their interactions, is necessary for an understanding of open organizing that has sufficient breadth and depth to be applicable in real-world contexts such as the smart city.

5.2 Practical Implications

In this study, we offer practical implications for governing transition initiatives through multi-SE approaches. Our framework could serve as a guideline in a context in which stakeholder inclusion at the planning phase is necessary to achieve systemic change. The OS framework was built using iterative practices of inclusion. However, to initiate and implement engagement at the societal level required a paradigm shift for the state management system toward democratizing strategic decision-making processes. For several reasons, stakeholders' involvement in this initiative was less effective than expected. Specifically, the state management system in Da Nang was unfamiliar with democratizing strategic decision-making processes. Conservative strategy formulation and implementation approaches made it challenging for facilitators to engage stakeholders. We demonstrate in this study that to fully enact and benefit from stakeholder inclusion practices to deal with sustainability issues in developing contexts, special attention must be paid to the practices that ignite a paradigm shift. This is the shift from conservative decision-making approaches to democratizing the process and embedding bottom-up engagement practices. Such a shift would be possible with a rich understanding of the current and persisting practices and finding the trigger points that enable stakeholders to think in new and different ways.

Our case also underscores the role of change agents (in our case, us as researchers) in the transition context. The framework can assist change agents, NGOs, and governmental bodies in facilitating SE processes and benefiting from these resourceful activities. Our results show the cognitive role that change agents play in helping stakeholders navigate institutional pluralism and complex societal issues. Finally, in the context of smart city development, we emphasize the crucial role of inclusive place-based leadership, emphasizing the contextual characteristics of cities and avoiding the "one size fits all" approach.

5.3 Concluding Remarks and Limitations

In our research, we analyzed inclusive decision-making processes that engage stakeholders in creating smart city food systems. The case of Da Nang's Food Smart City strategy sheds light on the research on smart city initiatives by proposing 1) an iterative system-level strategy making process, 2) a radically inclusive approach where top-down and bottom-up strategizing are combined, and 3) an integrated intervention logic including all stakeholders. We challenge the simplistic approach of SE at the societal level and examine its complexity, focusing on inclusion. Our research extends beyond incorporating stakeholders' perspectives in decision-making to

allowing them to contribute to all stages of strategy-making. This setting activates a social interaction space, where participants accommodate their interests and align their expectations to formulate a strategy to address the problem. Facilitating this socially interactive space can be a resource-demanding endeavor due to the challenges posed by the dynamic and the ever-changing nature of interactions with multiple stakeholders.

We argue that for change to happen at the societal level, special attention must be paid to two dependent factors: the degree of desired inclusion (moderate to radical) and the degree of engagement intensity of change agents of the process. In our setting, researchers play the transformative role known as knowledge brokering. This introduces the first limitation of our research and promises avenues for future research. Although participatory action research enabled us to create an experimentation space to practice inclusion, it also created challenges in drawing a clear line between research and action in our interpretative analysis. Researchers had to facilitate the research and integrate themselves into the engagement process to maintain its cohesion. We stress that our preliminary purpose was not to provide a comprehensive and generalizable picture of the phenomenon but to examine the complexity of radical inclusion considering its contextual specificities. Future research could extend and validate our results by implementing comparative case studies to contrast different contexts (geographical or institutional) where various degrees of inclusion are practiced, enabling generalizability.

Moreover, this study offered insights into the inclusion component of open organizing. When addressing sustainability issues at the societal level, open organizing, which encompasses multiple components such as transparency, inclusion, democracy, and accountability, emerges as a predominant approach. We argue that for a comprehensive understanding of this phenomenon, research must explore how these components interact, empower, and balance each other.

In conclusion, considering all contextual factors is essential when contextualizing research. Smart city development initiatives, like other sustainability transition initiatives, are recognized as sensitive to factors such as culture, social dynamics, and geography, (see in Filatotchev et al., 2021) all of which are of utmost importance in urban contexts. While our exploratory action research methodology embraces these contextual nuances, offering opportunities to integrate diverse theoretical perspectives, it limits the generalizability of our results, despite the transparency and replicability of our methodological steps. We recommend that future studies replicate our methods in different cities to validate our findings and facilitate context-sensitive theorizing.

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Table 1. Overview of the action research process

Process and objective	Activities	Stakeholders
Issue framing to frame food smart city (FSC) strategy		

- Conceptualize FSC concept
- Analyze the food system in Da Nang
- Identify food smart city's goals
- Develop strategic options and solutions for FSC development
	- Review literature on smart cities, urban food governance, food systems, and value chains and approaches to policy analysis and food policy of countries around the world
	- Conceptualize the FSC framework and outline Da Nang food system analysis design
	- Collect a qualitative dataset of 112 semi-structured and in-depth interviews with stakeholders involved in the strategy development process, covering their current practices and opinions in the food system and smart city
	- Analyze food policy frameworks and Da Nang's food system, including vegetables, livestock, and aquaculture value chains' structures, functions, value-added, chain actors' linkages, smallholder inclusion, state governance, food safety, sustainability, and gender and youth inclusion
	- Organize 1st engagement workshop on "consulting the findings from the food policy and food system analysis" to:
	  o Share and discuss the FSC framework and findings from the food system and policy analyses
	  o carry-out the strengths, weaknesses, opportunities, and threats (SWOT) analysis
	  o identify strategic options and solutions for Da Nang FSC based on reflecting the SWOT analysis's results
	- Consolidate and refine the FSC objectives and solutions identified from the first workshops
		Researchers
		
		Researchers, and key individual and institutional participants (KIIPs)
		Researchers
		
		Researchers and KIIPs
		
		Researchers and KIIPs

Arena shaping to refine FSC strategy		

- Re-visit the strategic objectives and proposed solutions
- Revise the FSC strategy
- Review the FSC strategy's consistency
- Analyze the feasibility of the strategy
	- Organize 2nd engagement workshop on "Participatory strategy formation for FSC development" to:
	  o Discuss factors and preconditions for the Da Nang FSC
	  o Develop overall and strategic objectives of Da Nang FSC
	  o Specify ultimate objectives and key results for each strategic one
	- Consolidate the workshop outputs to refine the FSC strategy
	- Organize 3rd engagement workshop on 'Refining the FSC strategy' to:
	  o Consult the consistency and feasibility of FSC strategy with Da Nang's food system stakeholders
	  o Develop the action plan to implement the FSC strategy
		Researchers, KIIPs, and broad participants
		
		Researchers and KIIPs
		Researchers, KIIPs, and broad participants

Credibility building to confirming and owning FSC strategy		

- Develop a feasible implementation plan
- Translate food smart city strategy into follow-up actions
	- Complete the strategy based on the analysis and the results of the strategy formulation workshops
	- Organize 4th engagement workshop on 'Internalizing the FSC strategy' to:
	  o Critically reflect and approve the developed FSC strategy
	  o Discuss priorities, resources needed, and roles of different actors involved in the strategy implementation
	  o Discuss the responsibilities of key government departments involved in the FSC strategy implementation
		KIPs
		Institutional participants

Sensemaking/reality reinforcing to rationalize FSC strategy		
- Reflect between theories and practices - Reflect the factuality of the FSC concept - Contextualize the FSC concept	- Organize formal and informal concurrent dialogues between researchers, and key individual and institutional participants to consult the FSC framework and findings from the food system and policy framework analyses, articulation of the existing food safety governances and practices into FSC strategy, and facilitate the stakeholder ownership of FSC strategy - Share the different-stage-developed FSC strategy to broad participants by email for their critical feedback - Conduct the unstructured follow-up interviews with two Vietnamese researchers by the first author to critically reflect on the whole open strategy process	Researchers and KIPs Researchers and participants The first author and researchers

Table 2. Overview of the primary data from semi-structured interviews and stakeholder workshops

Object and their business-related data	Food system-level data

Seven interviews with input-producing and distributing enterprises (input suppliers for vegetable production in Gialai and Danang, pig production, and fishery exploitation in Danang)
  - Products/services, business and turnover, product production and marketing, business partners
  - Management of product quality, production waste
  - Innovations applied to input production
  - Factors influencing production and business activities
	- Main food groups used in Danang and their origin, food production, and distribution
	- Food Quality, requirements, and nutrition diet of local people
	- Customs and food-using habits of local consumers and tourists; Issues related to food consumption of local people and tourists

23 interviews with food producers (Households, farms, farmer organizations, enterprises growing vegetables in Gialai and Danang; raising pigs and exploiting fisheries in Danang)
  - Products production, quantity and revenue, pre-processing, preservation, processing, trading, distribution, and marketing, specific activities for women and youth, and business collaboration
  - Innovations applied in food production
  - Factors influencing product quality, quality management, and business activities
  - Impact of production on the environment, health, and waste management	

27 interviews with collectors and traders (traders, cooperative, collective company for vegetables in Gialai and Danang; and for pigs and fisheries in Danang)
  - Food buying, selling, and collecting, business collaboration, and activities targeting women and young workers
  - Innovations are applied in collecting and trading
  - Factors affecting collecting and trading activities and product quality before and during collection and preservation
  - Impact of collecting and preserving on the environment, health, and waste management
	- Evaluation of food safety state in Danang and related issues
	- Factors affecting food safety level in Danang
	- State management of Quality control and food safety and the effect of state management on food safety

18 interviews with food processors and distributors (food companies processing pork and fisheries in Danang, food distribution enterprises, supermarkets, outlets, retailers for vegetables, pork, and fisheries in Danang)
  - Organizational structure and operation, food processing and preservation activities, business cooperation, specific activities for women and young workers
  - Innovations for processing/preservation/distribution
  - Factors affecting product quality and processing/preservation/distribution activities
  - Impacts of collecting and preserving on the environment, health, and waste management
	- Impacts of food production, processing, and consumption on environment, economics

14 interviews with local consumers and tourists (individual citizens, restaurants, hotels, works canteen, international and domestic tourists not residing in Danang) - Daily diet, food buying, and processing practices and prices - Evaluation of quality, safety level, and food safety in the market - New trends and requirements for food consumption - Understanding of Danang's food and food culture before arriving (for tourists) - Demands for desired food, concerns about enjoying food in Dadang, and evaluating food and service quality	and society, and nutrition and health - Development trends and innovation application to the production, processing, and consumption in the food system, and communication, management, and governance - Recommendations for developing a smart food system and improving participation of gender and young workers
25 interviews with government agencies (Food Safety Department, Department of Industrial and Trade, Department of Agriculture and Rural Development, Department of Health, Department of Natural Resources and Environment, Market Management Board, Quarantine Station, Department of Labour, War Invalids and Social Affairs, Department of Culture, Food magazines, Television station) - Organizational structure and operation, roles and functions in the food system, activities of the department in this field, and link with different food system producers and traders - State management of quality control and food safety, cooperation with other state departments, evaluation of food safety and related issues, and factors affecting food safety level in Danang - Evaluation of communication, gender, and labor in the food system and factors affecting these activities - New trends in state management of food systems and innovations applied to state management of food systems - Recommendations to enhance communication activities, gender, and labor in the food system and develop an innovative and sustainable food system in Danang	

Stakeholder Consultation Workshop 1 and 2: 88 participants, of which 70 participants from Danang (Food Safety Management Department, Department of Industrial and Trade, Department of Agriculture and Rural Development, Department of Health, Department of Natural Resources and Environment, Department of Science and Technology, Federation of Science and Technology Associations, Department of Information and Communication, Commune People Committee, Market Management Board, Woman Union, Consumer Rights Protection Association, Police Newspaper, Department of Labor, Department of Culture, Department of Tourism, Department of Finance, Farmers, Farmer organizations, Input suppliers; Companies producing, trading, and distributing foods, Media); 8 participants from provinces supplying foods for Danang; and 10 participants from Rikolto International and Vietnam National University of Agriculture.
Collected data (workshop 1): Procedure to facilitate participatory strategy formulation for food smart city (FSC) development in Da Nang; FSC theoretical model and its application; Da Nang food system's context, stakeholders, barriers, and opportunities; FSC development's strategic options and goals
Collected data (Workshop 2): Constructs for FSC development strategy: target groups, objectives (or strategic options) for the goal assigned to the group, and action plan, activities, resources needed, and implementer of each action to achieve the identified targets and objectives, outputs and outcomes, gaps and suggestions for filling the gaps; Principles and plan to transfer the strategy to the Danang city government

Stakeholder Consultation Workshop 3: 64 participants, of which 57 participants from Danang (Danang City People Committee, Food Safety Management Department, Department of Industrial and Trade, Department of Agriculture and Rural Development, Department of Health, Department of Natural Resources and Environment, Department of Science and Technology, Federation of Science and Technology Associations, Department of Information and Communication, Commune People Committee, Market Management Board, Woman Union, Consumer Rights Protection Association, Police Newspaper, Department of Labor, Department of Culture, Department of Tourism, Department of Finance, Farmers, Farmer organizations, Input suppliers; Companies producing, trading, and distributing foods, Media); and 7 participants from Rikolto International and Vietnam National University of Agriculture.

Collected data: Feedback on the FSC development strategy and experience on food system and food management project implementation

Stakeholder Consultation Workshop 4: 42 participants, of which 35 participants from Danang (Danang City People Committee, Commune People Committee, Food Safety Management Department, Department of Industrial and Trade, Department of Agriculture and Rural Development, Department of Health, Department of Natural Resources and Environment, Department of Science and Technology, Federation of Science and Technology Associations, Department of Information and Communication, Commune People Committee, Market Management Board, Woman Union, Consumer Rights Protection Association, Police Newspaper, Department of Labor, Department of Culture, Department of Investment and Planning, Department of Education and Training; Department of Tourism, Department of Finance, Cooperative Alliance, Media); and 7 participants from Rikolto International and Vietnam National University of Agriculture..

Collected data: Conclusion of the Da Nang People's Committee leader on the FSC development strategy; Opportunities for cooperation and implementation of the FSC development strategy

Table 2. Inclusion practices in multi-stakeholder engagement for open strategizing

Steps in the FSC strategy development			
Constructing	**Refining**	**Confirming**	**Rationalizing**
TRUST FORMATION			
Participants' reflections (italic letter) and researchers' responses (regular letter) *Researchers are experts recruited to develop the strategy for us. Why don't you develop and show us the strategy? Why do we have to be involved in formulating the strategy? (Participants).* We [*researchers*] have experienced that a strategy is only "our" if it is developed by ourselves. Such a strategy might not be suitable and feasible in a real situation. This lesson motivates us to engage stakeholders right at the beginning of the process to ensure that the strategy is "for and of" Da Nang. *To develop FSC, a participatory approach is necessary, as researchers declared. Can you explain what participation means and what you expect from us? (KIPs).* We see participation as the process through which Da Nang's stakeholders are actively involved in strategy development. Specifically, stakeholders jointly analyze, consult, and identify the vision, objectives, and solutions for Da Nang FSC.	*For our city, food safety is key. Why are the findings about food system analysis, such as added values and their distribution in the food value chain, governance, and business culture, necessary, and how do they inform our food safety management? (Key institutional participants - KIPs).* FSC is safe food and proper diets, good for farmers and processors, job creation for youth, innovative food governance, and environmental care. It is about good practices in the food system to be identified with you. *Last week*, the State issued Resolution 43-NQ/TW/2019, *dated January 21st, 2019, on the development of Da Nang City by 2030, with a vision to 2045. How should this resolution be reflected in the FSC strategy? (Broad participants).* The FSC development enables Da Nang to specify actions for food-smart city development, contributing to the city's development vision until 2045, as required by the municipal government and its agencies. Your contributions also ensure that the FSC strategy will align with social development goals.	*The Da Nang Food Safety Management Authority (FSMA) needs to review resources and finances and determine priorities. We can already see the need to prioritize Objective 1 (Complete the organizational structure of the food safety management system and improve capacity) and Objective 2 (Develop and promote innovations and technologies) by allocating additional resources (Institutional participants).* *FSMA and other Departments will specify tasks under each objective. For example, we need to specify results for improving the capacity of the food safety management apparatus, management models for FSC, and different interventions for food traders, and consumers (KIPs).* *The FSC strategy should be for 2020-2030, visioning until 2045. The strategy has inherited things that worked and new elements, such as developing school education programs on food safety and nutrition (Key institutional participant).*	*Researchers' presentation about the theoretical concept of an FSC is rather academic, with many theoretical terms that are too abstract and scientific. We want to know how we translate this theoretical FSC framework into practice. (Broad participants).* The FSC was conceptualized based on the food system and smart city frameworks. Different activities were planned to fit Da Nang. The first activity discusses and identifies the factors and preconditions for building Da Nang FSC. *Is it called FSC if I choose a food product or a restaurant using my smartphone? What modern technology use is adequate for the so-called food smart city? (Broad participants).* The use of modern technology is one of many factors determining the FSC's smartness. Consumers unnecessarily must use modern technology to be smart. Their participation in enhancing good food governance is also essential for FSC development and management.
Desirable outcomes of trust formation Safe sharing space and mutual understanding of the strategy process	Rooms for manoeuvres and constructive learning	Reliable engagement and accountability	Mutual understanding of the theoretical FSC framework
COMMON LANGUAGE CREATION			
Participants' feedback Several terms are confusing for us, such as "smart city," "smart linkage," "green food," "civilized food environment," and "intelligent consumer." They are very "western language." These words should be replaced by a more "Da Nang" one reflecting food safety more clearly.	Researchers define strategy and incorporate long-term goals associated with action plans, measures, methods, and activities. "Goal" is the ultimate objective to achieve during a specific period. We [*participants*] often have long-, medium-, and short-term goals. In our view, the goal is the "destination to arrive" (*mục đích*). Then, we need targets (*mục tiêu)* for the strategy.	In the government system, different words are commonly used in the strategy. For example, we use "target" (*chỉ tiêu*) to indicate what we want to achieve, and "solution" (*giải pháp*) to indicate what we want to do.	"Resilient and inclusive food system" means "recovering" (*phục hồi*). It is better to use adaptive (*thích ứng*) or sustainable (*bền vững*) to make it acceptable.

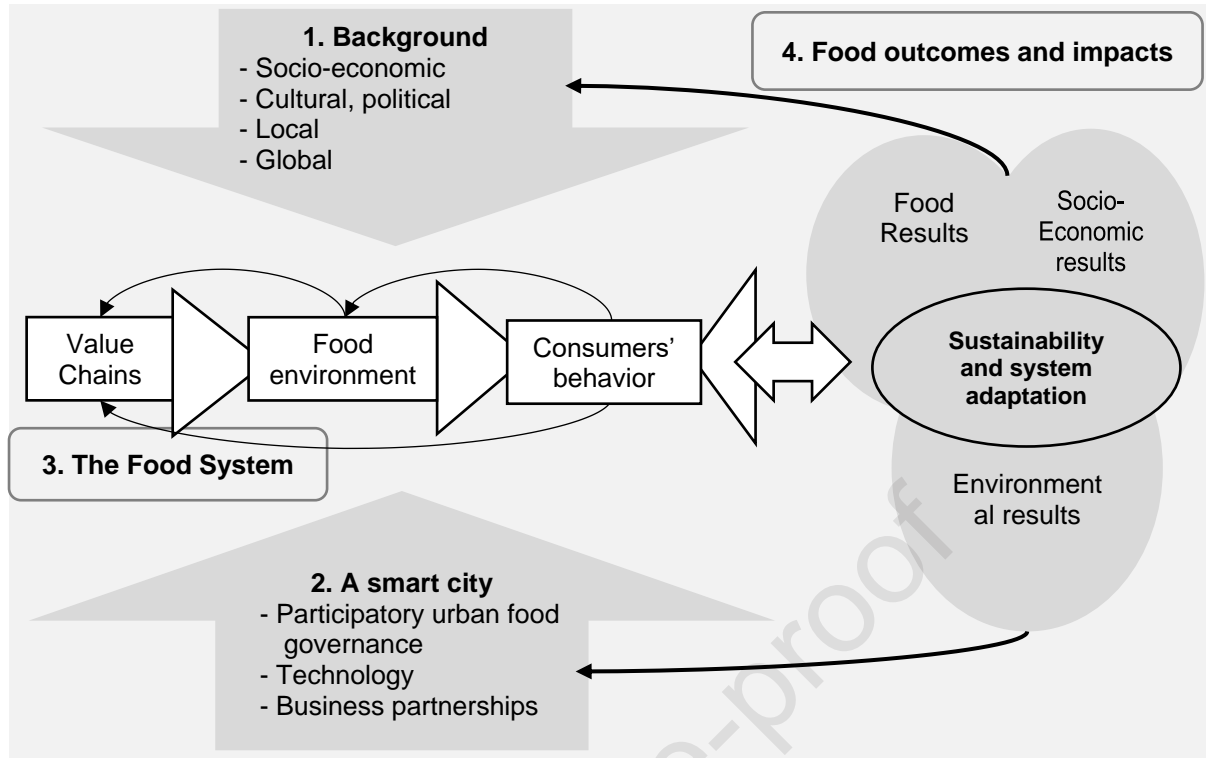|			
Adaptive terms: "Sustainable linkage," "Safe food," "Safe food environment," "Smart consumer"	"General goal," "Objective," "Result"	"Target", "Solution"	"Sustainable food system"
EXPECTATION ALIGNMENT			
Researchers' expectation - Systemic perspective and comprehensive strategy for FSC development - Participation of the City's People's Committee (PCP) representative(s) in four workshops to ensure the uptake	- Active participation of participants to ensure that the FSC strategy is developed by and for Da Nang	- Approval of the strategy by the PCP - A concrete action plan to implement the FSC strategy and commitment from key government agencies to the plan implementation	- Strengthening the feasibility of the FSC strategy with stakeholders' reflection and rationale
Institutional participants' expectation - Comprehensive analysis of problems for food safety management to fulfill the city's safe food goal - A strategy developed by researchers to focus on improving food safety	- A high degree of newness and excitement in the FSC strategy to impress stakeholders	- Submission of the FSC strategy to the PCP - Inspection of FSC strategy by PCP	- Having a concrete FSC framework to translate it into practice easily
Aligned expectation - An optional participation of the CPC's representative(s) to raise awareness - A working version of the FSC strategy for further refining	- A strategy combining existing good practices in Da Nang and in other cities that have been using a sustainable city food system and FSC	- CPC's acceptance of the FSC strategy - Consent to the FSC strategy by government agencies and stakeholders in Da Nang	- An FSC framework adapted to the local system and language
ROLE TRANSFORMATION			
Participants/researcher's designed roles - Led the designing of participatory methods, conceptualizing the FSC framework, analyzing food systems and policies, guiding and providing expertise and knowledge to frame the strategy (*Researchers*) - Being consulted about the FSC framework, food system and policy analysis results, and FSC framing (*broad participants*)	- Facilitating stakeholders' contributions in refining FSC strategy and finalizing the strategy (*Researchers*) - Co-organizing the stakeholder consultation workshops (*Key individual and institutional participants - KIIPs*) - Contributing ideas and comments to increase the relevance and quality of the strategy (*Broad participants*)	- Transferring FSC strategy to Da Nang FSMA and other stakeholders (*Researchers*) - Co-organizing the 4th workshop to approve the FSC strategy (*KIIPs*) - Receiving and applying the FSC strategy to develop a smart city in Da Nang (*Broad participants*)	- Reflect on the practical food safety management and smart city practices to revise the FSC concept (*Researchers*) - Using the theoretical FSC framework as guidance for constructing and refining FSC strategy (*KIIPs*) - Reflecting the FSC concept to contributions to FSC strategy (*Broad participants*)
Roles emerged during the strategy process - Knowledge brokerage (*Researchers*) - Localizing the strategy process (*KIIPs*) - Contextualizing the FSC strategy frame (*Broad participants*)	- Empowering KIIPs' ownership and commitment to the FSC strategy development (*Researchers*) - Enabling the broad participants' internalization of common sense of the strategy process (*KIIPs*) - Reflecting on the factuality of strategy framing and consistency and feasibility of FSC strategy (*Broad participants*)	- Observing and reflecting on the ownership and commitment of institutional institutions (*Researchers*) - Cultivating and translating the institutional participants' ownership and commitment (*KIIPs*) - Translating FSC strategy into action plans (*Institutional participants*)	- Co-create a new understanding of FSC by interpreting the FSC concept with practical knowledge and understanding, and developing hybridity in FSC strategy (*Researchers, KIIPs, and broad and participants*) - Articulating reality into FSC concept and contextualizing FSC concept (*Researchers*)

Figure 1. The food smart city model for Da Nang developed together with stakeholders.

Practices of
active
engagement

Role transformation — Trust Formation — Expectation alignment — Common language creation

Open strategy
process
stages

| Constructing | Refining | Refining | Rationalizing |

Preliminary
outcome

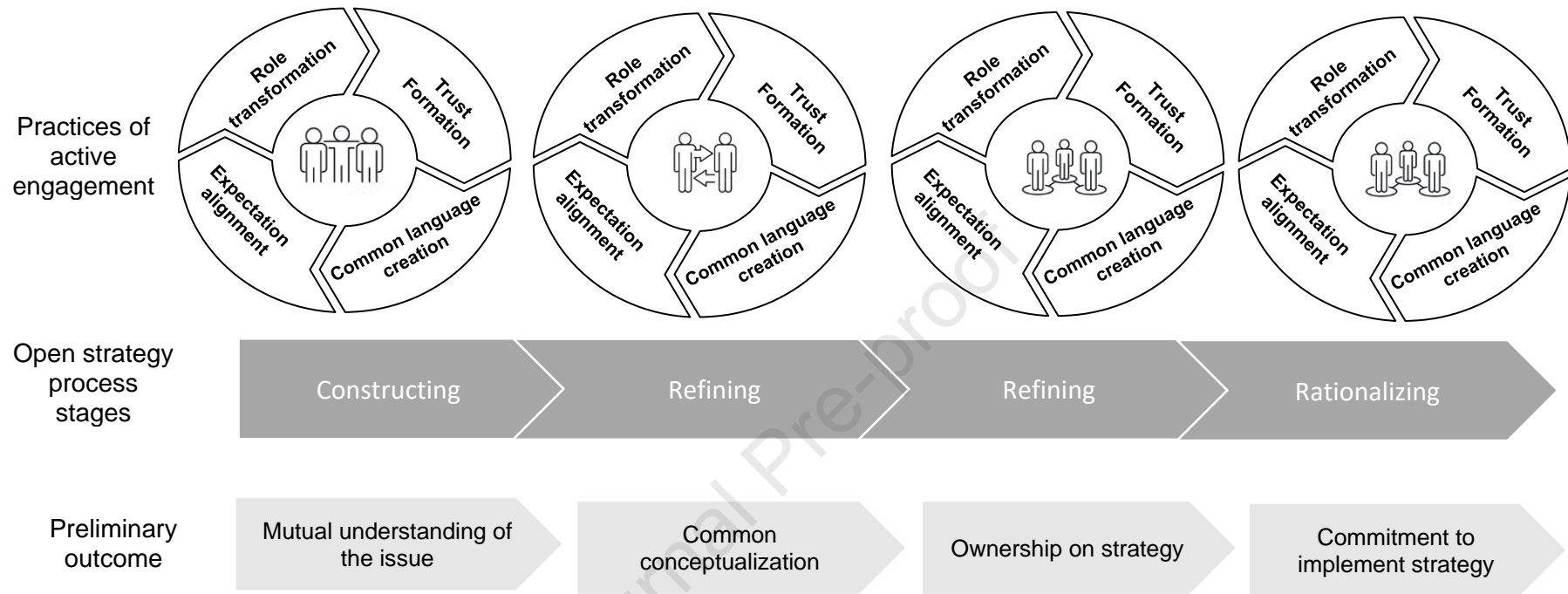| Mutual understanding of the issue | Common conceptualization | Ownership on strategy | Commitment to implement strategy |

Figure 2. Radical inclusion practices in the open strategy process

- Building on the strengths of open strategy literature, this research emphasizes nuances of participation and inclusion practices in multi-stakeholder settings in smart city initiatives.
- For change to happen at the societal level, special attention must be paid to two dependent factors: the degree of desired inclusion (moderate to radical), and the degree of engagement intensity of facilitators in the process.
- The nature of the multi-stakeholder engagement process embraces multiple components, such as democracy, transparency, and inclusion, simultaneously.
- Inclusion practices in the strategizing process are sets of interdependent activities including trust formation, creation of a common language, role transformation, and alignment of expectations towards reaching the common goal of strategy formulation.
- The successful inclusion of stakeholders at the societal level could alleviate obstacles to bottom-up approaches to governance for systemic change.