

Title page

Title: Co-creation of knowledge in the urban planning context: The case of participatory planning for transitional social housing in Hong Kong

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1 Co-creation of knowledge in the urban planning context: The case of 2 participatory planning for transitional social housing in Hong Kong

3 4 **Abstract**

5 Drawing on organizational knowledge theory, this paper investigates collaborative knowledge
6 creation for social change in the urban planning context through an in-depth case study of Hong
7 Kong's recent participatory planning exercise for transitional social housing. Using the concept
8 of 'ba', the enabling context of knowledge creation, this paper explores how 'ba' contributes to
9 or limits participatory planning for social innovation. The study found that while the conversion
10 between tacit knowledge and explicit knowledge in participatory planning takes place in a
11 manner similar to that in organizational knowledge creation, collaborative knowledge creation in
12 planning is largely influenced by the 'ba' that has been in place on the city and neighborhood
13 scale for a long time and the availability of capable institutions as knowledge activists.
14 Understanding collaborative knowledge creation in participatory planning from the
15 organizational perspective advances the theoretical discourses to understand the dynamics of the
16 new modes of participatory planning, but also expands the empirical application of
17 organizational theory to the urban context.

18
19 **Keywords:** Co-creation, knowledge creation, the concept of 'ba', low-income housing,
20 participatory planning, social innovation

21 22 **1. Introduction**

23 Stakeholder participation has been widely used in urban planning and policy over the past three
24 decades (Nared & Bole, 2020). The literature has evolved primarily around democratic
25 legitimacy of civic engagement in contemporary urban governance (Hubert, 2010; Lelieveldt *et*
26 *al.*, 2009) and the techniques devised to facilitate communications during the participatory
27 planning processes (Howard & Gaborit, 2007; Rojin *et al.*, 2014; Twitchen & Adams, 2012).

28 Recently, there has been a growing tendency to consider urban planning as a social practice that
29 has the power to transform the society—that is, *social innovation* (Oosterlynck & Debruyne,
30 2013). Social innovation is generally defined as ‘a complex process of introducing new products,
31 processes or programs that profoundly change the basic routines, resource[s] and authority flows,
32 or beliefs of the social system’ (Westley & Antadze, 2010, p. 2). As the approaches to urban
33 planning and development are largely influenced by the socio-spatial roots from which
34 fundamental social change arises, urban planning seems closely related to social innovation
35 (Nyseth & Hamdouch, 2019).

36 In the affordable housing context, housing associations’ efforts to find new ways to finance
37 social housing provision have often been given as examples of innovative responses to the
38 government’s neoliberal retrenchment (van Bortel et al., 2019; Bouchard & Bouchard, 2012;
39 Morrison, 2016; Mullins, 2006). However, housing scholars noticed that scaling up or out of
40 piecemeal innovation to the housing system level cannot be achieved by individual
41 organizations, but requires knowledge creation and sharing beyond the organizational level and
42 across different sectors (Crabtree & Hes, 2009; Raynor, 2019). Relating to this issue, there is a
43 growing body of literature arguing that participatory planning to create knowledge in a
44 collaborative manner can bring about social changes beyond the physical improvement
45 (Carpenter *et al.*, 2020; Oosterlynck & Debruyne, 2013). In particular, cross-sectoral
46 collaboration for knowledge creation is important in affordable housing provision, as it has the
47 power to incorporate the interests of lower-income people whose voices are relatively less heard
48 in the housing policy domain (van Bortel *et al.*, 2019).

49 However, while the existing housing and urban planning literature presents various innovative
50 examples of co-production of affordable housing (van Bortel *et al.*, 2019), it lacks rigorous
51 theoretical foundations to understand the relation between stakeholder participation and
52 knowledge creation for social innovation in the affordable housing context. Specifically, there is
53 little understanding of the following two key issues: 1) In which process collaborative
54 knowledge creation for social innovation can occur in the urban planning context?; and 2) What
55 are the critical factors that contribute to or limit this process? The purpose of this paper is hence

56 to illuminate the processes and drivers of collaborative knowledge creation for affordable
57 housing provision by employing a solid theoretical basis.

58 To this end, this study engages with the literature on organizational theory that explains the
59 dynamics of organizational innovation (Westley & Antadze, 2010). Extensive research suggests
60 that collaborative knowledge creation and management is the key to organizational innovation
61 (Nonaka & Toyama, 2003; Nonaka & von Krogh, 2009; Nonaka *et al.*, 2006; Popadiuk & Choo,
62 2006; Song *et al.*, 2011; Stephen *et al.*, 2004; Winter, 1987). It also emphasizes that for
63 organizational innovation, it is more important to build the *enabling context* for knowledge
64 creation than to manage the knowledge itself (Alvarenga Neto, 2007; Nonaka *et al.*, 2006). The
65 enabling context for knowledge creation has been conceptualized as ‘ba’. The concept of ‘ba’
66 refers to the pre-existing consensus and relationships embedded in the physical and social
67 environment that involve organizational knowledge creation (Itami, 1999; Nonaka & Konno,
68 1998; Tokoro, 2015). This paper seeks to answer the research questions based on the analytical
69 lens used in organization studies—that is, the process of knowledge creation for innovation and
70 the role of ‘ba’ in the process.

71 This study conducts an in-depth case study based on Hong Kong’s recent participatory planning
72 exercise aimed to facilitate the provision of Transitional Social Housing (TSH) for low-income
73 families. Over the past decade, Hong Kong’s housing sector has faced the pressing demand for
74 innovation to address the lack of affordable housing in the face of decreasing housing
75 affordability. Despite the extensive public housing stock, many poor families have been forced to
76 tolerate expensive and inadequate housing in the private sector (Chiu *et al.*, 2018). In relieving
77 the hardship of low-income households in urgent need of rental housing, a few voluntary sector
78 organizations (VSOs), including a social enterprise and non-governmental organizations, took
79 the initiative to deliver community-initiated TSH from the early 2010s (Lau, 2020). In order to
80 assist VSOs that had difficulties in implementing TSH projects, a local design institute organized
81 a series of participatory planning activities to develop technical and managerial suggestions for
82 prompt delivery of TSH. This exercise was aimed to make significant systemic changes in the
83 voluntary sector housing domain based on voluntary engagement of professionals from various
84 fields and thus appears to diverge from the conventional government-driven approach to low-

85 income housing provision in Hong Kong. Therefore, it is worth examining this case to elucidate
86 the relationship between participatory planning and collaborative knowledge creation for social
87 change.

88 Following the introduction, the paper begins with an explanation of the concept of collaborative
89 knowledge creation and the notion of ‘ba’, drawing on the organizational and planning literature.
90 Based on the conceptual framework, the paper presents the background of the participatory
91 planning exercise and the methods used for data collection and analysis. The findings are then
92 illustrated in terms of the process of collaborative knowledge creation and the role of ‘ba’ in this
93 planning exercise. Based on the findings, the paper discusses the commonalities and divergence
94 between knowledge creation in organizations and that in participatory planning. The
95 interdisciplinary approach of this study contributes to not only advancing the theoretical
96 discourses to understand the dynamics of the new modes of participatory planning, but also
97 expanding the empirical application of organizational theory to the urban context.

98

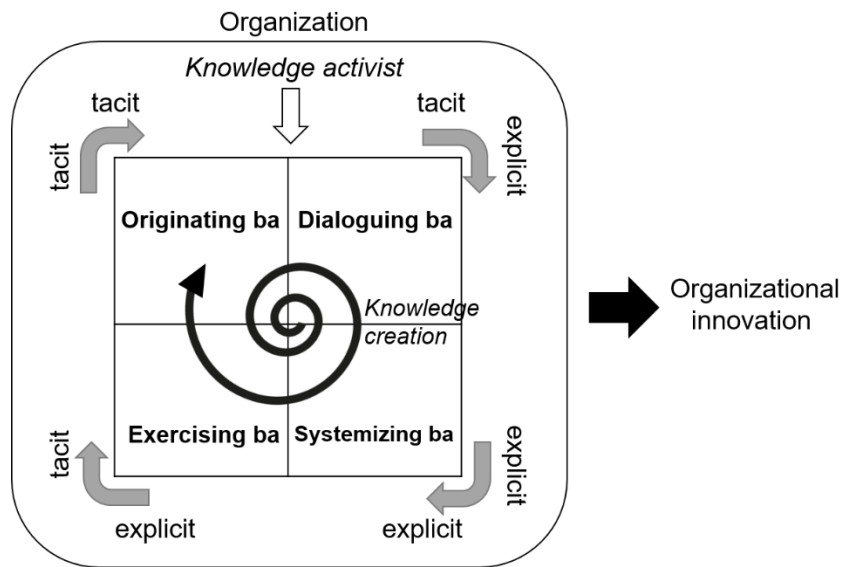
99 **2. Literature review**

100 **2.1. Organizational knowledge creation and the concept of ‘ba’**

101 The organizational literature defines knowledge creation as ‘the process of making available and
102 amplifying knowledge created by individuals as well as crystallizing and connecting it to an
103 organization’s knowledge system’ (Nonaka *et al.*, 2006, p. 1179). Knowledge creation has been
104 considered a critical component to maintain or enhance an organization’s competitive advantage
105 (Nonaka & Toyama, 2003). According to Nonaka and Konno (1998), organizational knowledge
106 is classified into two types, namely *tacit knowledge* and *explicit knowledge*. While tacit
107 knowledge denotes individuals’ ‘know-how’ embedded in experiences and their beliefs and
108 mentalities which are usually hard to formalize, explicit knowledge refers to knowledge formally
109 transmittable between individuals through data or manuals. For organizational innovation,
110 conversion from tacit knowledge to explicit knowledge is essential as it allows for expansion of

111 new ideas beyond one's own boundaries towards larger organizations or industry (Nonaka & von
112 Krogh, 2009).

113 Nonaka and his colleagues (Nonaka & Konno, 1998; Nonaka *et al.*, 2006; Von Krogh *et al.*,
114 2000) argue that knowledge is embedded in and activated by what is referred to as 'ba'—a
115 shared space in motion that promotes relationships and interactions among stakeholders. The
116 Japanese term 'ba' originated in physics to denote electrical and magnetic fields that surround
117 objects and characterize the objects while being inseparable from them (Heisenberg, 1958).
118 Later, the notion has been used in sociology, management and organization fields in other
119 cultures to address the shared context that impacts social relationships conducive to knowledge
120 creation (Choo & Alvarenga Neto, 2010; Nonaka & Konno, 1998; Nonaka & von Krogh, 2009;
121 Tokoro, 2015). Nonaka *et al.* (2000) suggest that knowledge creation and conversion take place
122 amid dynamic characteristics of 'ba' (Figure 1). Knowledge emerges from face-to-face
123 interaction and sharing of feelings and experiences (*originating 'ba'*) and is externalized through
124 dialogue and interaction among people with specific knowledge and capabilities (*dialoguing*
125 *'ba'*). In turn, the explicit knowledge created in the dialoguing 'ba' can be effectively systemized
126 utilizing information and communication technology in a collaborative manner (*systemizing*
127 *'ba'*) and be internalized and synthesized by individuals in an *exercising 'ba'*. Nonaka *et al.*
128 (2000) note that 'ba' for organizational knowledge embraces not only physical space (e.g.,
129 office) but also virtual (e.g., online space) and mental space (e.g., shared experiences and ideas).
130 Therefore, the concept of 'ba' refers to not only social relationships between actors within a
131 particular organizational setting, but also tangible and intangible context that enables knowledge
132 creation through social interaction between the actors.



134 Figure 1. Organizational knowledge creation process (modified from Nonaka *et al.*, 2000)

135 It is suggested that organizational knowledge is socially constructed and shared, and hence, it is
 136 important to manage the enabling context for knowledge creation, rather than to manage the
 137 knowledge itself, as knowledge management is largely influenced by the context in which it is
 138 created and shared (Choo & Alvarenga Neto, 2010). Therefore, ‘ba’ is seen as the circumstances
 139 that are generated and regenerated for knowledge creation in the organizational settings (Nonaka
 140 *et al.*, 2000), and hence, how to create effective ‘ba’ is of great concern to CEOs or managing
 141 directors known as ‘knowledge activists’ or ‘moderators’—i.e., key actors (mostly leaders)
 142 developing knowledge vision and catalyzing knowledge creation (Nonaka *et al.*, 2006). The
 143 literature has recognized that ‘ba’ can be generated beyond predetermined boundaries of time
 144 and space to create knowledge (Nonaka & Toyama, 2003). Indeed, Lee and Cole (2003) showed
 145 how distributed knowledge in a community can be effectively integrated to create innovative
 146 knowledge beyond an organizational level. It implies that the concept of ‘ba’ as the enabling
 147 context for organizational knowledge creation can be applied to wider spatial scales, such as a
 148 neighborhood and a city, as this study demonstrates.

149 2.2. Co-creation of knowledge in the urban planning context

150 Over the past decade, co-creation has received growing scholarly attention as an effective
 151 approach to contemporary urban governance (Eriksson *et al.*, 2017). Co-creation can be defined

152 as “active involvement of end-users in various stages of the production process” (Voorberg *et al.*,
153 2015, p. 1335). Co-creation initially emerged in the business sector in the 1990s in the effort of
154 firms to engage customers in the process of designing and producing products and services
155 (Díaz-Méndez & Gummesson, 2012; Grönroos & Voima, 2013). This new mode of collaboration
156 has been increasingly adopted in other fields, such as public service and project management, to
157 empower citizens, firms and public service professionals to tackle complex problems and create
158 value together (Brandsen *et al.*, 2018; Díaz-Méndez & Gummesson, 2012; Eriksson *et al.*, 2017;
159 Liu *et al.*, 2019; Pestoff *et al.*, 2012; van Hoof *et al.*, 2013).

160 Co-creation is distinguishable from other types of public participation in that it requires proactive
161 interaction, exchange and collaboration among a wide range of empowered stakeholders that are
162 not delimited spatially or sectorally (Brandsen *et al.*, 2018; Voorberg *et al.*, 2015). It also
163 produces ‘long-lasting outcomes’ that meet ‘societal needs by fundamentally changing the
164 relationships, positions and rules between the involved stakeholders’ rather than short-lived one-
165 off results (Voorberg *et al.*, 2015, p. 1334). Moreover, co-creation aims for not only tangible
166 products or services, but also intangible values shared and redefined by the participants (Díaz-
167 Méndez & Gummesson, 2012; Grönroos & Voima, 2013), which are thought of as the key output
168 that brings about long-lasting impact, i.e., *innovation*, to a firm, industry or the society
169 (Christian, 2010; Lee, 2012; Tokoro, 2015; Voorberg *et al.*, 2015). Scholars contend that
170 knowledge creation and co-creation are both an ‘issue-driven and solution-oriented process’
171 premised on active participation, interaction and collaboration among participants (Satō *et al.*,
172 2018, p. 2). Therefore, knowledge created collaboratively can bring about fundamental changes
173 to an organization, system or society (Choo & Alvarenga Neto, 2010).

174 Co-creation has recently been considered as a ‘methodology of collaborative knowledge
175 production’ in the urban planning domain (Carpenter *et al.*, 2020) and increasingly adopted in
176 planning practices, such as building smart cities (Tokoro, 2015), designing new public spaces
177 (van Eijk & Gascó, 2018), managing infrastructure projects (Liu *et al.*, 2019) and dealing with
178 climate change issues (Ruiz-Mallén, 2020). These cases have shown that co-creation in urban
179 planning pursues not only tangible outcomes (e.g., changes in the built environment or

180 technological development) but also intangible ones (e.g., empowerment, social justice, value-in-
181 use).

182 Although co-creation can be used as a method of collaborative knowledge production in urban
183 planning, there is insufficient conceptual exploration about how the notion of ‘ba’ in the
184 organizational context can be translated in co-creation practices for urban planning. While
185 different stages of organizational knowledge creation engage with different characteristics of
186 ‘ba’, whether the same mechanism is applied to the co-creation of knowledge in urban planning
187 is unknown. In effect, the contextual difference of knowledge creation between organizational
188 settings and a city might require cautious refinement in understanding the dynamics of
189 knowledge creation involving the concept of ‘ba’ in two aspects. First, it is not always
190 practicable to generate or regenerate ‘ba’ on the city scale, in contrast to organizational
191 knowledge creation. More often than not, specific ‘ba’ in the city is formed incrementally and
192 has existed there for a long time. Therefore, it is unclear who have created or can create such ‘ba’
193 and who are within or outside such ‘ba’ on the city scale. In the urban planning context, it is thus
194 necessary to understand how ‘ba’ that is generated by knowledge activists who initiate and
195 organize participatory planning activities interacts with the ‘ba’ that has been in place for a long
196 time embedded in the system or spaces in the process of knowledge co-creation.

197 Second, collaborative knowledge creation for spatial changes in the built environment needs to
198 take into account the *locationality* of ‘ba’. Unlike in the online environment (Bryceson, 2007), it
199 is difficult to create highly controlled, standardized ‘ba’ for knowledge creation in the physical
200 urban environment, since different planning sites have distinctive social milieux comprising
201 distinctive history, culture, social relations, economic vitality and the natural environment
202 (Healey *et al.*, 2017; Seo & Joo, 2019). The social relationships involved in the physical spaces
203 are usually far more complex than those within clear spatial boundaries of an organization.
204 Hence, ‘ba’ related to participatory planning might be more dynamic and complicated than ‘ba’
205 in an organizational setting due to the socio-spatial characteristics embedded in the locations.
206 Therefore, it can be assumed that different locationalities of ‘ba’ result in variant knowledge
207 management outcomes in terms of whether there is supportive ‘ba’ or opposing ‘ba’ at the
208 neighborhood level and what types of knowledge are produced for that particular location

209 (Hlupic *et al.*, 2002; Liu *et al.*, 2019). This study seeks to address these issues by investigating an
210 empirical case related to participatory planning for TSH in Hong Kong, as illustrated in the
211 following sections.

212

213 **3. The present study**

214 Taking grounded theory as the guiding methodological approach (Strauss & Glaser, 2017), this
215 study adopted a case study that can help understand and explain complex social phenomena,
216 collaborative knowledge creation in this study, through an extensive and in-depth description of
217 the case(s) (Yin, 2018). To this end, this study chose a recent participatory planning exercise
218 devised to develop strategies to facilitate the provision of TSH in Hong Kong as the case to be
219 examined.

220 **3.1. The background**

221 The rapid increase of housing prices and the persistent shortage of affordable rental housing have
222 exacerbated the housing problem of the underprivileged in Hong Kong over the past decade
223 (Chiu *et al.*, 2018). Although public rental housing accommodates a third of the city's 7.4
224 million population, the demand for public rental flats has outpaced the government's supply, and
225 the average waiting time for public rental flats has been prolonged from 2.2 years in 2011 to 5.7
226 years in 2020 (Housing Department, 2021). Amid the skyrocketing rents for private residential
227 flats, those on the wait list or who do not qualify for public rental housing have been left to
228 pursue sub-standard, sub-divided units in the private sector or sleep rough every night (Chiu *et*
229 *al.*, 2018; Social Welfare Department, 2018).

230 In order to relieve the housing difficulties of these vulnerable people, several voluntary sector
231 organizations (VSOs) have launched TSH programs since the early 2010s, through which vacant
232 flats available in the private sector or idle public facilities/sites are utilized to accommodate low-
233 income households for short-term lease. If an interested organization finds a suitable building or
234 site for TSH, it submits an application to the government for short-term tenancy for TSH projects
235 or negotiates directly with the landlords of the buildings to obtain permission to use them as

236 TSH. As TSH operators provide not only housing units, but also relevant social services to their
 237 tenants, this new type of low-income housing has been well received by the underprivileged and
 238 recognized by the government (Aberdeen Kai Fong Welfare Association, 2019; Lau, 2020).
 239 However, only about 500 units had been provided under this program by mid-2018. It has been
 240 pointed out that the stagnant supply of TSH is attributable to VSOs' lack of resources and
 241 expertise in housing development and management (Lo *et al.*, 2020).

242 In an effort to address this problem, the Jockey Club Design Institute for Social Innovation
 243 (JCDISI), a local university-based nonprofit design institution, organized a participatory
 244 planning exercise aiming to provide 'a participatory social innovation platform to deliberate on
 245 how society can better use the limited resources and promote cross-sector stakeholder
 246 collaboration to produce innovative and practical solutions to provide TSH' (JCDISI, 2018, p. 3).
 247 This exercise took place from August 2018 to October 2020 with an aim of facilitating the
 248 delivery of TSH through co-creation of knowledge. It involved a series of participatory events,
 249 namely co-creation design workshop, action project, and public and stakeholder consultation, in
 250 which professionals from the various fields and local communities participated to share their
 251 views and knowledge conducive to the implementation of TSH programs. All the activities
 252 organized by JCDISI for this planning exercise are outlined in Table 1.

253 Table 1. Timeline of JCDISI's participatory planning exercise

| Date | Event | No. participants | Author's participation |
|-----------------------------|--|------------------|------------------------|
| August 1, 2018 | Transitional Social Housing Team Leader Briefing | 38 | |
| August 25 | Pre-workshop Site Visit to Ma Wan | 22 | |
| September 8 | Co-creation workshop (I) | 98 | Yes |
| September 15 | Co-creation workshop (II): Expert surgery session, initial design scheme learning and sharing exercise | 86 42 experts | Yes |
| October 15 | Operation SoInno Opening Ceremony cum Symposium | 180 | Yes |
| November | Publication of the summary report of the co-creation workshop | N.A. | |
| October, 2018 – March, 2019 | Development schemes drawn by 'C-Lab' and 'Ronald Lu' | N.A. | |
| March 5, 2019 | Meeting with Rural Committee in Ma Wan | N.A. | |
| March 8 | Stakeholder consultation (Ma Wan) | 43 | |

| | | | |
|---------------|--|------|-----|
| March 15 | Stakeholder consultation (Sham Shui Po & Stanley) | 36 | Yes |
| March 23 | Public consultation (Ma Wan) | 50 | |
| March 31 | Public consultation (Stanley) | 22 | |
| April 14 | Public consultation (Sham Shui Po) | 26 | Yes |
| May 21 | Presentation at the Legislative Council briefing | N.A. | |
| June 11 | Presentation at the Hong Kong Institute of Surveyors seminar | N.A. | |
| October, 2020 | Publication of the action project report | N.A. | |

254

255 *3.2. Data collection and analysis*

256 This study used a variety of data collection methods and sought to enhance the validity of the
257 collected information through triangulation (Fielding & Fielding, 1986). It first undertook
258 *documentary analysis* based on the formal and informal documents related to the planning
259 exercise including meeting minutes, summaries of the discussion during the public consultation
260 and stakeholder consultation, co-creation summary report, action project final report and
261 transcribed speeches in the public symposium held after the co-creation workshop. *This step*
262 *helped chart the whole process of knowledge exchange, creation and sharing and grasp the views*
263 *expressed by different stakeholders in the course of the events.* Second, semi-structured face-to-
264 face interviews were conducted with thirteen key informants during and after the events. *These*
265 *informants were selected using purposeful sampling through the documentary analysis, as well*
266 *as in consultation with JCDISI, in view of the informants' direct and indirect involvement in the*
267 *participatory activities and their representation of different sectors (see Table 2).* The
268 *interviewees were asked to share about the way they exchanged their own knowledge with other*
269 *participants and their overall assessment of the whole, or part of, the events, including*
270 *achievements and challenges.* While the interviewees represented only selected sectors, the
271 *summary notes of the public consultation and stakeholder consultation provided rich information*
272 *about who stated what about which subjects and thus were used as supplementary data for this*
273 *study to capture diverse perspectives.* An online survey was also distributed to the co-creation
274 *members by e-mail a month after the workshop to collect their assessments of the event.*
275 *However, only seven responses were obtained, and hence, this survey result was not used as*
276 *primary data for this study.* Finally, the author and her research fellow participated in five

277 sessions of events during this planning exercise to observe the arrangements of the participatory
 278 activities and understand the nuances of the discourses exchanged among the participants. The
 279 textual data from documentary research and in-depth interviews were transcribed and coded by
 280 two researchers independently in line with the research questions. The coded data were analyzed
 281 and integrated thematically through multiple steps of discussion and amendment. The result was
 282 contextualized based on other documents and researchers' observation of the events.

283 Table 2. Profile of the interviewees

| <i>No.</i> | <i>Profession</i> | <i>Participation</i> | <i>Gender</i> |
|------------|-------------------|---|---------------|
| 1 | Architect | Co-creation & action project | Female |
| 2 | Architect | Action project | Male |
| 3 | Architect | Action project | Female |
| 4 | Architect | Co-creation & action project | Male |
| 5 | Social worker | Co-creation | Female |
| 6 | Social worker | TSH operation | Female |
| 7 | Social worker | Strategic partner | Female |
| 8 | Engineer | Co-creation & stakeholder consultation | Male |
| 9 | Civil servant | Stakeholder consultation | Male |
| 10 | Civil servant | Stakeholder consultation | Male |
| 11 | Urban planner | Project management (staff of host organization) | Male |
| 12 | Urban planner | Project management (staff of host organization) | Female |
| 13 | Officer | Project management (staff of host organization) | Female |

284

285 **4. Findings**

286 *4.1. The process of knowledge creation in participatory planning*

287 This participatory planning exercise comprised a series of key events where collaborative
 288 knowledge was created and shared. First, the participants (i.e., co-creation members) worked
 289 together in seven different teams and developed possible TSH prototypes, including six
 290 conceptual schemes and one topical scheme for individual units, for five pre-selected sites in the
 291 two sessions of the studio-based co-creation workshop. A design-thinking approach was adopted
 292 whereby the co-creation members participated in the workshop on a voluntary basis, shared their
 293 professional knowledge within their team freely and drew up a conceptual scheme suitable for

294 the site assigned to each team. This first session of the workshop generated the originating ‘ba’
295 where the participants had face-to-face interaction and sharing of experiences casually. In the
296 second session of the workshop, forty-two local experts participated and provided technical
297 advice and suggestions on the schemes drawn by the co-creation members. As the co-creation
298 members possessed professional knowledge and experience in various fields, such as social
299 work, property management, engineering, green building, law, accounting, architecture, public
300 administration and community development, the co-creation workshop turned out to be the stage
301 where the participants learned from one another from different sectors and produced optimal
302 knowledge for innovation in a collaborative manner (Interviewees 1, 4 & 5). The scheme
303 proposals were presented to other teams at the end of the workshop and further exhibited during
304 the public symposium in October 2018 (Figure 2). They were also publicized in the form of a
305 summary report in November 2018. Therefore, the second session of the workshop and the
306 following exhibition and publication can be seen as the process in which the tacit knowledge of
307 the co-creation members was converted to the explicit knowledge to be shared by others in the
308 dialoguing ‘ba’.



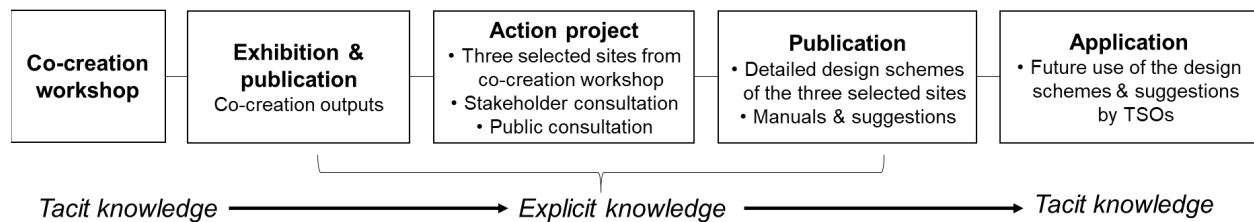
311 Figure 2. Co-creation workshop and the exhibition of the conceptual schemes (JCDISI, 2018 &
312 author)

313 The host organization then selected three conceptual schemes developed for the sites in Sham
314 Shui Po, Stanley and Ma Wan, in view of the unique social and environmental characteristics
315 and proceeded to the follow-up action project aiming to ‘systematically document the technical
316 solutions and community building considerations that need to be taken into account in the
317 planning and designing of TSH’ (JCDISI, 2020, p. 8). The Sham Shui Po site located in the
318 northwest edge of the urban area has been underutilized, being occupied by a temporary
319 construction office and storage on one side and a fenced car park on the other side. The Stanley
320 site, the southern part of Hong Kong Island, has had a vacant school building and outdoor spaces
321 with good structural integrity. The site is in the center of the Stanley neighborhood, and hence
322 any revitalization work there was expected to reconnect this segregated site with other parts of
323 the district. The Ma Wan site, a small island in the west of the city, was considered to have
324 potential for a large-scale TSH development and for bringing great vibrancy to the existing

325 community. These three sites were labelled as a prototype for vacant/Short Term Tenancy sites
326 (Sham Shui Po), a prototype for vacant school sites (Stanley) and a prototype for revitalizing idle
327 villages (Ma Wan).

328 The host organization put up the three selected prototypes in the open tender for the action
329 project, to which fourteen bids were submitted by eleven architectural design companies. Two of
330 them with which three co-creation members were affiliated were selected to develop the detailed
331 TSH prototype schemes in the action project *as they were considered to have comprehensive*
332 *understanding of the site and the prototypes. These architectural companies produced detailed*
333 *planning suggestions at a nominal service charge because they considered participation in the*
334 *action project as part of accomplishing their corporate social responsibility (Interviewees 1, 4 &*
335 *13). To support the design process of the action project, the host organization arranged a series of*
336 *stakeholder and public consultations in which professionals and local communities shared their*
337 *views on the detailed schemes suggested by the action project teams. The discussions and*
338 *concerns raised during the consultation sessions were reflected in the final design schemes,*
339 *which were publicized in the form of a printed report in October 2020.*

340 The outputs of the action project were produced not only in tangible form (i.e., TSH design
341 schemes for the three sites) but also in the intangible form of knowledge (i.e., guiding principles
342 on planning and design of each prototype, statutory requirements for housing projects, reference
343 guides for modular unit construction). *The participation in the stakeholder and public*
344 *consultation sessions was all on a voluntary basis. The action project outputs aimed to help*
345 *interested VSOs to utilize these ready-made prototype schemes to expedite TSH delivery*
346 *(Interviewees 11 & 12). Therefore, the action project and the publication of its outputs can be*
347 *seen as the process in which the explicit knowledge created in the dialoguing ‘ba’ (i.e., co-*
348 *creation workshop) is systemized as manuals and further internalized by individual VSOs in the*
349 *future (Figure 3).*



351 **Figure 3. Participatory planning as collaborative knowledge creation process**

352 In this entire process, the role of the host organization was critical. Many of the staff in the host
 353 organization, including the director himself, were trained as architects, urban planners or
 354 community activists and hence were capable of coordinating this type of participatory planning
 355 activity. The host organization pre-selected five potential sites, each of which represented
 356 different characteristics and challenges in TSH developments, and took the participants on a
 357 guided tour to the sites prior to the workshop.

358 Basically, we involved the entire process [of the event]. Especially our director has excellent
 359 expertise in planning and knows the selected sites very well, particularly Ma Wan and Stanley. He
 360 input a lot of local knowledge into the groundwork. And we did lots of research and interviewed
 361 the key actors related to each site for the workshop. (Interviewee 12, July 2019)

362 During the co-creation workshop, the host organization shared with the participants the legal,
 363 technical and social challenges arising from TSH provision that needed to be taken into account
 364 when making suggestions for the sites. It also provided the co-creation members with the guiding
 365 rules about idea sharing within their studios and helped the action project teams to make optimal
 366 decisions based on the integrated ideas derived from the co-creation workshop. Indeed, the host
 367 organization played a role as a ‘knowledge activist’ or ‘moderator’ throughout the entire
 368 participatory process, leveraging its professional capabilities. **In short, the whole process of this**
 369 **participatory planning exercise seems highly comparable and analogous to the process of**
 370 **knowledge creation in organizations.**

371

372 **4.2. The role of ‘ba’ in participatory planning**

373 **4.2.1. Motivations for participation**

374 By the time the co-creation workshop was being conceived, the persistent housing affordability
375 problems in Hong Kong had already frustrated many citizens (Ill, 2018). The widespread public
376 awareness of the local housing crisis was, in fact, the major reason the host organization chose
377 TSH as the first theme of its three-year twelve-themed co-creation workshops (Interviewee 12).
378 The host organization sent invitation letters to local institutions to search for potential
379 participants in the co-creation workshop based on their own social networks. According to the
380 interviews with the co-creation members, although the formal invitation from the host
381 organization was a trigger of their participation, they decided to engage in the workshop mainly
382 because they felt that actions were needed to help people in severe housing distress.

383 When my company received an invitation letter, my boss suggested me to join. But I myself have
384 been interested in transitional social housing because I was aware that low-income people spent so
385 much of their salary for inadequate housing. I personally support this new type of low-income
386 housing [TSH] and want to help poor people with my expertise. (Interviewee 1, August 2019)

387 I went to the workshop just to accompany my wife. But I found that the issues discussed at the
388 workshop were important and well matched with my interest and practices outside my company.
389 So, I decided to be involved in the following design processes as well. (Interviewee 4, August
390 2019)

391 It seems that social consensus on the need for immediate action that prevailed throughout the city
392 motivated people with the shared feelings to take part in the co-creation workshop and the action
393 project. In Nonaka *et al.*'s (2000) terms, the originating 'ba' that has existed among the
394 professionals with the same concerns in the city mobilized them to participate in the dialoguing
395 'ba' generated by the host organization (i.e., knowledge activist) for creating explicit knowledge.

396 In addition, participants' professional capabilities seemed to promote their engagement in the co-
397 creation workshop. Most of the interviewees stated that they were willing to contribute directly
398 or indirectly to facilitating TSH delivery with their own expertise. While observing the co-
399 creation workshop, the author found that the conceptual schemes appeared to reflect the
400 characteristics of the expertise of the members in each studio. For instance, a studio comprising
401 only architects, planners and engineers (Ma Wan studio B) highlighted the potential of mixed-
402 use development, self-sufficient community and enhanced connectivity in their conceptual

403 design. In contrast, another studio in which a social worker was included (Ma Wan studio A) was
404 more attentive to age-friendly community and elderly empowerment in their design for the same
405 site. Some participants from the green building industry proposed climate-resilient design and
406 green financing in TSH projects. These distinctive features of the different co-creation teams
407 were also observed by the interviewees (1 & 12). In addition, four co-creation members among
408 six who responded to the online survey opined that they learned a lot from their team members in
409 different sectors and wished to participate in a similar co-creation workshop in the future to help
410 those in need with their professional knowledge. The interviews and author's observation
411 identified that the relationships among the co-creation team members in the originating 'ba' and
412 dialoguing 'ba' were generally *cooperative* based on the same goal (i.e., facilitating the delivery
413 of TSH) and *complementary* given their different fields of expertise.

414 However, although the co-creation members were mostly passionate professionals who were
415 interested in TSH projects, the engagement of non-professionals was rather limited. Only a small
416 number of local residents attended the public consultation sessions. The interviews with the host
417 organization (Interviewees 12 & 13) noted that while using limited channels to advertise the
418 events might be the main reason for the limited engagement of the local communities, this
419 phenomenon seemed related to the sense of capabilities which motivated the professionals to
420 participate. The advertisement poster of the workshop stated that this event aimed to 'develop a
421 series of transitional social housing suggestions that focus on planning and architectural design',
422 which implied indirectly that professional qualifications were required to engage in the events.
423 Therefore, local residents might have felt not quite empowered as they had limited expertise to
424 contribute. In this sense, professional knowledge seen as the prerequisite for participating in the
425 dialoguing 'ba' seems to have resulted in the limited involvement of non-professionals.
426 Moreover, it was also noted that the selection of TSH tenants was subject to VSOs operating
427 TSH, and hence, the participation of future tenants in this early stage of planning process was, in
428 fact, impracticable.

429 Meanwhile, the interviews and author's observation indicated that how likely people felt their
430 ideas for TSH projects would materialize in the future also influenced participants' motivations
431 for maintaining their interest—i.e., staying engaged in the dialoguing 'ba'. In effect, among the

432 fourteen bids lodged for the action project, more than half of them targeted the Stanley site
433 because it had more potential than the other two sites for applying the modular unit construction
434 method that is currently financed by the government (Interviewee 12 & 13). Moreover, the co-
435 creation workshop was not designed to draw any ‘formal’ planning proposals to submit to the
436 Planning Department. Rather, it aimed to search for innovative ideas to facilitate TSH delivery
437 by an empowered civil society. Therefore, some co-creation members felt uncertain about the
438 implementability of their conceptual schemes (Interviewees 12 & 13).

439 It was difficult for us to encourage the participants to carry on because there was no guarantee that
440 their ideas would be implemented someday. So, we had to keep convincing them that what we are
441 doing is meaningful for our society, and the government was already recognizing our efforts. [...]
442 In order to engage the stakeholders to the end, we had to deliver what they want, not just talk
443 shows or one-time events. The participants really hoped to see something would be followed up.
444 (Interviewee 12, July 2019)

445 The participants’ desire for more concrete, assured outcomes of their contribution indicates that
446 although community-initiative for housing solutions is seemingly innovative, uncertainty about
447 the implementation of their participation outcomes is likely to hinder people from remaining in
448 the collaborative knowledge creation.

449 4.2.2. *The locationality of ‘ba’*

450 The three sites selected for the action project had distinctive socio-spatial characteristics, which
451 significantly influenced the neighborhood-scale ‘ba’ and the types of co-created knowledge. The
452 TSH prototype developed for the Sham Shui Po site did not encounter critical objection from the
453 local community during the public consultation presumably in view of the potential benefits they
454 would bring to this area—one of the poorest districts in Hong Kong. In effect, some non-
455 governmental organizations based in this district had been keen on providing social services to
456 cater to the needs of street sleepers and subdivided unit tenants (Note of the stakeholder
457 consultation). Hence, the host organization deliberately allocated more social workers to the
458 studio for the Sham Shui Po site than to other studios in the workshop (Interviewee 12). In view
459 of the social circumstances of the area, the social workers in the co-creation team for the Sham
460 Shui Po site consulted their co-creation members to ensure that the unit and building design

461 would accommodate the lifestyle of street sleepers and single-parent households. Overall, the
462 'ba' in this district was in accordance with the 'ba' generated for the co-creation workshop.
463 Meanwhile, there were considerable debates during the action project (systemizing 'ba') with
464 regard to the issues about future tenants' privacy and traffic noise as the site faced the highway
465 and busy streets. Moreover, locating shops on the lower level of the building to employ potential
466 TSH residents who have been socioeconomically excluded was also strongly suggested by the
467 co-creation and action project members working for this site (Author's observation).

468 Unlike the Sham Shui Po site, the Ma Wan site involved strong objection from the local
469 community to the TSH plan derived from the action project. The hostile sentiment of the local
470 residents towards the TSH plan seems related to the historic background of the Ma Wan Island.
471 Initially, the government and a private developer jointly committed to carrying out the second
472 phase of the development at this site back in 1997. However, since the plan has not yet come
473 about due to the obstacles found during the land resumption, local grievances over the
474 incomplete development of the island have mounted in relation to the deficiency of public
475 transportation and amenities.

476 Transitional social housing will only add more burden to us. It is ridiculous that the government
477 does not consider the support for this derelict land. Please do not force your plan to be carried out
478 without public consultation with us in advance. (Excerpt from the letter from a local resident in
479 Ma Wan sent to the host organization)

480 The local community was not supportive of our design. During the public consultation session, the
481 local residents yelled at us and condemned the idea of developing TSH near their housing estate.
482 (Interviewee 2, August 2019)

483 When the action project team presented their plan in the public consultation, a strong resistance
484 was raised by the local residents in Ma Wan, many of whom criticized this exercise as a 'black
485 box operation' and urged the government to fulfil its original development plan for the area.

486 During the public consultation session, we intentionally used the term 'housing' instead of
487 'transitional social housing' to avoid making local residents unhappy. [...] We had to incorporate
488 some of their suggestions into our final design, such as community facilities, art elements and eco

489 village, which obviously do not benefit transitional housing residents so much. (Interviewee 2,
490 August 2019)

491 The existing obsolete infrastructure and remote location of the site also constrained the themes of
492 the discussion during the co-creation workshop and the action project to the technical
493 considerations of specific ideas and the related cost-effectiveness, such as adopting modular
494 integration construction method or increasing the public transportation means operating in the
495 site (Author's observation; JCDISI, 2020).

496 The professional knowledge of the host organization on housing projects and the director's
497 career background as a former government official in urban planning provoked unexpected anger
498 among the residents in Ma Wan.

499 Lately I heard the Lands Department suggested this site to you [host organization] for transitional
500 social housing. Is it the Lands Department who gave you the technical advice and said this land
501 should not be unattended like this? (A local resident in Ma Wan, public consultation, March
502 2019).

503 The host organization thus had to put a lot of effort into pacifying the local residents in Ma Wan
504 and ironing out their misunderstandings about these events. While the role of the host
505 organization as a moderator seemed significant alongside the whole process of knowledge
506 creation among the voluntary participants, its position seemed not so helpful when coordinating
507 knowledge creation with the local communities who did not share the same concerns (i.e.,
508 originating 'ba'). In short, while the local residents near the Ma Wan site had shared consensus
509 on the development of the obsolete site in the island, this originating 'ba' on the neighborhood
510 scale was adversarial to the dialoguing and systemizing 'ba' generated in the co-creation
511 workshop and action project and the 'ba' that prevailed on the city scale.

512 As for the Stanley site, while there was a debatable issue of Nimbyism (i.e., local opposition to
513 the development of unwanted facilities in their neighborhood) during the public consultation, the
514 local community generally welcomed the development of the derelict building with development
515 potential. As the site was located in the central area of the neighborhood, it has been expected to
516 contribute to the revitalization of the whole community with improved connectivity to the

517 adjacent areas. Considering that the existing building was formerly used as a school and located
518 near popular tourist destinations, the development of ‘youth-oriented transitional housing’ in
519 association with creative art businesses was proposed as the main design theme during the co-
520 creation workshop (JCDISI, 2018). After the co-creation workshop, one non-governmental
521 organization that had been helping a youth group in the adjacent area showed interest in
522 implementing the plan derived from the action project for the site, and consultations have been
523 undertaken between the organization and the host organization for the possibility of
524 implementing the scheme (Interviewee 12).

525 However, the local community in the Stanley site desired to transform the school building into a
526 community facility, rather than TSH. Therefore, the original design scheme had to be changed to
527 ensure that this site would not be only for TSH residents, but for the entire neighborhood (e.g.,
528 inclusion of a space functioning as an ‘Urban Living Room’, allocation of a wet market on the
529 ground level of the building), which would likely increase the construction and management
530 cost. These changes to the design schemes showed that the ‘ba’ that pre-existed embedded in the
531 site (i.e., opposition to the development of affordable rental housing utilizing a historic property
532 in the neighborhood) might conflict with the ‘ba’ generated for the participatory planning
533 exercise or the ‘ba’ that prevailed on the city scale (i.e., expansion of TSH utilizing underutilized
534 properties). In short, while the ‘ba’ that has been formed within the local community in this
535 district was not utterly in opposition to the ‘ba’ in the participatory planning exercise, it was
536 influential enough to revise the planning strategies (i.e., knowledge) produced in the dialoguing
537 ‘ba’ and systemizing ‘ba’ among the professionals (i.e., co-creation and action project).

538

539 **5. Discussion**

540 Drawing on the theory on organizational knowledge creation (Nonaka & Konno, 1998; Nonaka
541 & Toyama, 2003; Nonaka *et al.*, 2006), this study investigated Hong Kong’s recent participatory
542 planning exercise for transitional social housing to explore the dynamics of collaborative
543 knowledge creation for social innovation in the urban planning context. The findings of this
544 study have three important implications to be discussed in this section.

545 First, this study generally supports the emerging research (Carpenter *et al.*, 2020; Satō *et al.*,
546 2018; Tokoro, 2015) that views participatory planning valuing active interaction and exchange of
547 new ideas among stakeholders from the very beginning of the planning process as the process of
548 knowledge creation for social innovation. The tangible (i.e., prototype design) and intangible
549 (i.e., planning suggestions for the prototypes) knowledge drawn from the co-creation workshop
550 and the action project aimed to assist VSOs in applying the prototypes to similar sites and
551 ultimately facilitating the overall delivery of TSH at the system level. This study also suggests
552 that knowledge conversion in the planning context is a critical stage to have transformative
553 power (Nysethe & Hamdouch, 2019), as it is in the organizational context (Nonaka & von
554 Krogh, 2009). The case study showed that tacit knowledge embedded in experiences of
555 individual professionals was converted to explicit knowledge that could be formalized through
556 manuals and guidelines during the co-creation workshop and the action project, and the explicit
557 knowledge was expected to be internalized and exercised by individual VSOs for future TSH
558 implementation. Moreover, the role of the host organization as knowledge activist was crucial
559 throughout the participatory exercise. It endeavored to facilitate building originating ‘ba’,
560 dialoguing ‘ba’ and systemizing ‘ba’ by empowering the voluntary participants, providing them
561 with necessary information and assistance and facilitating stakeholder engagements. In short, the
562 process of knowledge creation for organizational innovation can be applied to the process of
563 knowledge creation for social innovation in the participatory planning context.

564 Second, despite the generally similar process of knowledge creation between organizational and
565 planning context, this study indicated that ‘ba’, the enabling context for knowledge creation, in
566 participatory planning has different characteristics from that in organizations. In general,
567 participation in organizational knowledge creation is spatially predetermined and is based on the
568 same goals (e.g., organizational innovation) with the organizational membership (Nonaka &
569 Konno, 1998). Therefore, it might be convenient for knowledge activists to form homogeneous
570 ‘ba’ for knowledge creation. However, participatory planning usually has amorphous spatial
571 boundaries of ‘ba’ and obscure incentives for engagement. Therefore, knowledge activists in
572 participatory planning may need to tackle complex issues arising from heterogeneous, or
573 sometimes conflicting, ‘ba’ prior to knowledge creation. The case study showed that ‘ba’ that
574 pre-existed and prevailed throughout the city (i.e., sympathy for low-income families) was the

575 key factor that motivated professionals in various fields to participate in the co-creation
576 workshop and the action project, and their participation was further facilitated by the sense of
577 their capabilities.

578 Specifically, while the ‘ba’ that has been in place at a city level could be effective in forming the
579 ‘ba’ for this particular planning exercise when they are supportive of each other, ‘ba’ that has
580 already been in place at the neighborhood level might not always be on the same page as the
581 city-scale ‘ba’ or ‘ba’ of the planning activities. The conflicting ‘ba’ could degrade the original
582 knowledge created by like-minded actors or make it deviate from its original quality. This study
583 revealed that the discrepancy of ‘ba’ across different spatial scales could be engendered by
584 distinctive socio-spatial characteristics of the site, i.e., *locationality of ‘ba’*. The locationality of
585 ‘ba’ on the neighborhood scale involves not only the built environment, such as former use of the
586 existing building, connectivity to adjacent areas and potential for modular unit construction, but
587 also the prevalent social environment and history of the location, such as trajectory of
588 neighborhood development, Nimbyism, poverty and social relationships in the local community.
589 These kinds of ‘ba’ around a specific location seems to be built incrementally and embedded in
590 the area for a long time. The locationality of ‘ba’ influences not only the relationships among the
591 stakeholders, but also the types of knowledge produced in participatory planning. While the
592 basic technical concerns and cost effectiveness were the common themes discussed across the
593 three sub-cases of this study, each sub-case showed different planning focus largely derived from
594 the locationality of ‘ba’. It implies that although knowledge created in participatory planning
595 may have applicability that could lead to systemic change, it requires a process to reflect on the
596 locationality of ‘ba’ and refine the planning suggestions. This finding highlights that knowledge,
597 or value, created in participatory planning is socially constructed (Liu *et al.*, 2019), as it is in
598 organizations (Choo & Alvarenga Neto, 2010), and the locationality of ‘ba’ plays an important
599 role in the planning processes and outcomes.

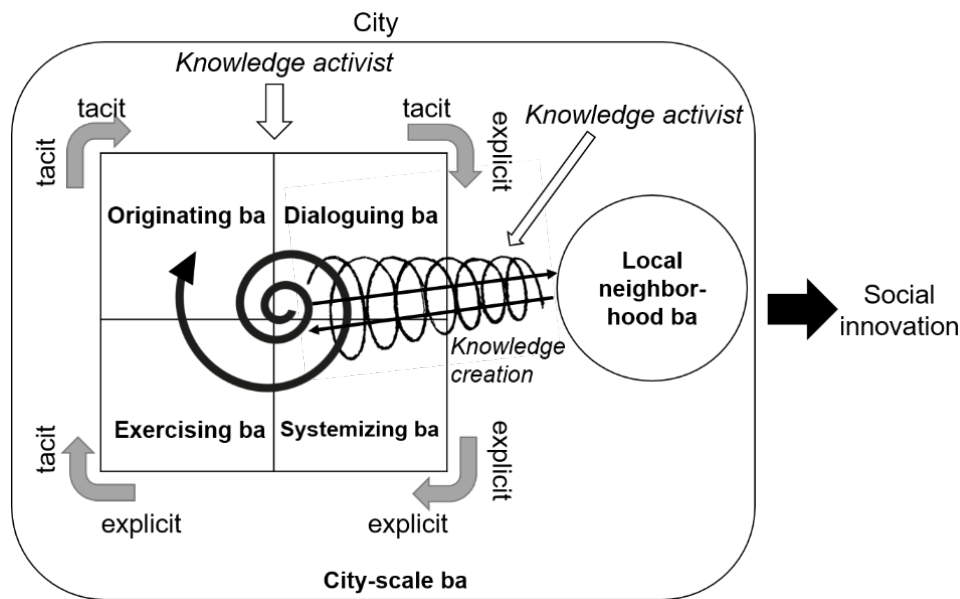
600 Finally, this study demonstrates that the absence of formal institutional arrangements that
601 actively coordinate the participatory process and ensure the implementability of the planning
602 outputs may face challenges in collaborative knowledge creation in urban planning. The case
603 study showed that although the knowledge activist (host organization) endeavored to assist in

604 knowledge creation beneficial to the urban poor, its capability of generating a new local
605 neighborhood ‘ba’ or changing the existing neighborhood ‘ba’ that **opposes the objective of**
606 **participatory planning** was limited. Indeed, the absence of the **government** involvement in
607 knowledge creation in the planning context could engender the uncertainty about the
608 implementability of the new ideas created by the voluntary participants, which potentially
609 weakens participants’ trust in the value of their collaboration. In this regard, the **government**, or a
610 public agency, seems in a critical position that can realign **the ‘ba’ on various spatial scales (city,**
611 **district, neighborhood)** and increase the implementability of the new knowledge as a knowledge
612 activist or moderator in the cross-sectoral collaboration for knowledge creation. This role is
613 different from merely coordinating the process of public participation in ordinary urban projects.
614 The knowledge activist should engage actively in conversion between tacit knowledge and
615 explicit knowledge. **This finding reflects on the view that while citizen-led planning brings about**
616 **a variety of benefits, the government’s role is important in the contemporary urban governance**
617 **for innovation (Kronsell & Mukhtar-Landgren, 2018).**

618

619 **6. Conclusion**

620 Amid the scarce theoretical base and analytical tools to scrutinize new participatory planning
621 modes, **this study shows that organizational knowledge theory can provide a useful analytical**
622 **lens to understand knowledge creation in the participatory planning context.** In particular, the
623 concept of ‘ba’ seems helpful in examining the dynamics of the enabling context to mobilize
624 knowledge creation. In short, collaborative knowledge creation in the urban planning context is
625 largely influenced by **the ‘ba’ that has been in place for a long time**, the enabling context that is
626 far more complex than **‘ba’ in an organizational setting**, and the capability of knowledge activists
627 (Figure 4). Given that generating ‘ba’ that mobilizes the shared concerns and collaboration is a
628 precondition of organizational knowledge creation, realigning the ‘ba’ for the participatory
629 exercise with the **‘ba’ that has been in place on the neighborhood or city scale** seems important in
630 collaborative knowledge creation in the planning context.



632 Figure 4. Collaborative knowledge creation in the urban planning context drawn from the case
 633 study

634 The approach to understanding co-creation as a new mode of participatory planning from the
 635 organizational perspective enables us to grasp the dynamics of co-creation in urban planning
 636 more systemically, drawing on the concept of ‘ba’. However, it also raises follow-up questions
 637 which were not addressed sufficiently in this paper, such as how the **government** can play a role
 638 as a knowledge activist in collaborative knowledge creation on the city scale particularly for the
 639 benefit of the marginalized groups, **how the involvement of non-professionals in collaborative**
 640 **knowledge creation changes the whole process and outcomes**, and whether organizational
 641 literature would still be applicable when it comes to coordination of conflicting ‘ba’. More
 642 research seems needed in the future to verify and expand the scholarly discussions on
 643 collaborative knowledge creation in the participatory planning context.

644

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