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Open Strategy in a Smart City

Suvi Einola, Marko Kohtamäki & Harri Hietikko

“Human creativity is the ultimate economic resource.”

Richard Florida
Urban studies theorist

To attract new companies and a talented workforce in a way that increases income streams, cities are searching for strategic capabilities by using a variety of strategic practices. The present study participates in the theoretical debate between micro- and macro-strategizing by focusing on the interplay between the city organization and its institutional environment. As such, the study elucidates the open strategy process used in the strategy work of a medium-sized city in Finland. To make the strategy work open and encourage citizens' participation, the city decided to utilize crowdsourcing as a tool that was part of a broader strategy process to develop a city strategy in a participative manner. The present study analyzes the responses of almost 2000 citizens to address the role of an open strategy in developing a smart city. The study contributes by depicting how the open strategy was utilized in practice and what types of outcomes it produced.

Introduction

Strategic planning has traditionally been seen as a business of the upper echelons and top management, whereas the “lower” levels of the organization are charged with taking care of the implementation. The open strategy concept challenges this view by demanding transparency and the involvement of broader communities as a component of the success of the strategy work (Whittington, Cailluet, & Yakis-Douglas, 2011). Although open strategy work has incontestable advantages, it has also been argued that “the directive, focused, convergent qualities of traditional conceptions of strategy and the non-hierarchical, expansive and often divergent nature of dialogic approaches” (Heracleous, Gößwein, & Beaudette, 2018), raise tensions that are novel to organizations. While previous studies of open strategy researchers have mostly focused on shareholders, employees, or various partner communities, the newest stream of open strategy work builds on open innovation by applying the concept of crowdsourcing to strategy work (Aten & Thomas, 2016; Dobusch & Kapeller, 2018). The word “crowdsourcing” is used for multiple activities and practices that have crowd-participating elements (Estellés-Arolas & González-Ladrón-de-Guevara, 2012; Howe, 2006). Crowdsourcing has many definitions, but in this study the definition from Aitamurto, Chen, Cherif, Galli and Santana (2016) is taken: “Crowdsourcing is an open call for anyone to participate in an online task by sharing information, knowledge, or talent”. As Schenk and Guittard (2009: 5) put it: “crowdsourcing is a form of outsourcing not directed to other companies but to the

crowd by means of an open tender (open call) via an Internet platform”. Crowdsourcing has the potential to improve the engagement of citizens in policy-making, even between elections, and because of this ability, it is increasingly used also in public sector organizations (Aitamurto et al., 2016). Although crowdsourcing itself as a method is not new, it provides meaningful opportunities for the more effective use of citizens' opinions in strategy work (Bauer & Gegenhuber, 2015).

In addition to the increasing use of the concept of crowdsourcing in development work by public sector organizations, the smart city concept has gained massive attention in the last decade in the European Union (Schuurman, Baccarne, Marez, & Mechant, 2012). The smart city concept includes both technology- and human-driven approaches (Kummitha & Crutzen, 2017) in which the role of citizen participation is one of the key elements of the effective development of cities (Schuurman et al., 2012). Whereas the technology-driven approach highlights the role of ICT and IoT in the development of cities, human-driven approaches emphasize the idea that smart cities “can also include human capital investments that are aimed at fostering a city's capacity for learning and innovation” (Neirotti, De Marco, Cagliano, Mangano, & Scorrano, 2014: 26).

There is a need for empirical studies about how to foster learning and innovation in cities through citizen involvement (Schuurman et al., 2012). The present study contributes by suggesting that an integrated interplay exists between the technology- and human-driven approaches and use the concept of sociomateriality to

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discuss this interplay in the context of open strategizing. Furthermore, this study depicts both how an open strategy was utilized in practice, and what types of outcomes the use of the open strategy produced. As such, the present study participates in the theoretical debate between micro- and macro-strategizing by focusing on the interplay between the city organization and its institutional environment. By involving citizens in open strategizing, the organization crafts a micro-practice that enables citizens to participate in strategic activity.

Key Insights from the Literature

Open Strategy

The open strategy concept includes two key features of strategy work: participation and transparency. The former reflects upon the people involved in the actual strategy work, and the latter refers to the transparency of the strategy process and communicating the strategy; both of these are favored by new social media technologies (Whittington et al., 2011). An open strategy that includes the participation of external and internal stakeholders has many undeniable benefits: increasing collective commitment and, through commitment, enabling more effective strategic actions and joint sensemaking (Ashmos, Duchon, McDaniel, & Huonker, 2002; Doz & Kosonen, 2008; Kellermanns, Walter, Lechner, & Floyd, 2005). Furthermore, open strategizing can improve creativity by capturing more diverse views (Stieger, Matzler, Chatterjee, & Ladstaetter-Fussenegger, 2012).

Despite the many positive aspects of open strategy, researchers have also discussed the negative effects of openness: having more participants in strategy work is time-consuming for management teams and requires the top management team (TMT) to relinquish some control (Birkinshaw, 2017), to enhance participation and transparency. This easily leads to situations in which an organization struggles with tensions “between flexibility and openness on the one hand versus structure and control on the other; broad participation of stakeholders versus selection of particular contributors to lead parts of the process and integrate ideas; aiming for a collective creation, but within clear, directed parameters” (Heracleous et al., 2018: 25). Crowdsourcing as an open strategy tool can be a good solution to balance time, collective strategy creation and effective decision making, as shown in a few previous studies (Aitamurto et al., 2016; Aten & Thomas, 2016; Malhotra, Majchrzak, & Niemiec, 2017; Schuurman et al., 2012).

Crowdsourcing as a Sociomaterial Tool

Sociomateriality has attracted growing interest in the field of management and information studies in recent decades (Orlikowski, 2007; Orlikowski & Scott, 2008). Sociomateriality is defined as “the constitutive entanglement of the social and the material in everyday organizational life” (Orlikowski, 2007: 1438). Researchers aim to understand the entanglement, or the intertwined interaction, between the social and material (Balogun, Jacobs, Jarzabkowski, Mantere, & Vaara, 2014). For a long time, organization studies overlooked the role of the material in organizing (Orlikowski, 2007) and in strategy research, before the field of sociomateriality enabled us to combine and elaborate technological aspects with actors and practices (Balogun et al., 2014). Research on sociomateriality is interested in the interaction between actors and objects. These material artifacts can be strategy tools, presentation tools, sticky notes, frameworks, or analytical software (Jarzabkowski & Kaplan, 2015). Strategy-as-practice research is particularly intrigued “with the way that sociomaterial aspects such as tools, locations, and spatial arrangement configure strategic interaction between bodies and things” (Balogun et al., 2014: 185).

In this study, our special interest lies in crowdsourcing and how it can be used as a sociomaterial tool to improve the involvement of citizens in a city’s strategy work. Although crowdsourcing has been tightly coupled with the Internet of Things (IoT), its roots can be traced back as early as the attempts by the 18th century British government to find solutions for positioning ships at sea, as well as in Wild West movies where sheriffs offer rewards to bring suspects to justice (Afuah & Tucci, 2012). Crowdsourcing has spread quickly, with much emphasis in areas such as creating, organizing and sharing knowledge (Bauer & Gegenhuber, 2015: 661). Crowdsourcing has also been used in the context of open strategizing (Aten & Thomas, 2016; Malhotra et al., 2017). Crowdsourcing enables a large number of stakeholders to take part in strategy work through virtual environments (Aten & Thomas, 2016), which are seen as an important engagement tool to improve the involvement of citizens in the context of public organizations (Aitamurto et al., 2016). Although crowdsourcing has incontestable positive effects for the inclusion of citizens, some have also warned that it creates problems in sharing and integrating knowledge because of contentious conflict risk and self-promotion risk (Malhotra et al., 2017). To mitigate these risks, Malhotra and colleagues (2017) suggest framing the strategic challenge appropriately using a 2-phase guided crowdsourcing process, discouraging self-promotion in instructions, and posting answers anonymously.

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Research Methodology

This single case study aims to understand the role of crowdsourcing in an open strategy in the context of a medium-sized city in the western part of Finland. The present study uses single case research for an improved understanding of the case context (Eriksson & Kovalainen, 2016) and the rich processes of open strategy, which should be studied in detail (Patton, 2015). The case is relevant and valuable as such, and the meaningful findings of this case will be conceptually interesting for a broad readership (Stake, 1995).

The city started its participative strategy work in 2013, and all three researchers have been facilitating the strategy process and strategy workshops since inception. In 2017, new city councilors were elected, and a new strategy round was started. Because it was the first time new councilors took part in strategy work

and because the purpose was to develop a completely new strategy instead of updating an existing one, it was considered important to provide sufficient background information to support decision making. The idea of citizen participation had also been discussed in previous strategy rounds, and this time, the top management team and city councilors took up the challenge. Crowdsourcing was chosen as a form of inclusion because the city, Vaasa, has nearly 70,000 citizens, which makes face-to-face participation impossible. The crowdsourcing was carried out in cooperation with an external actor, but the city of Vaasa was closely involved in all stages of the preparation. One of the authors built the questions together with the external actor.

As such, the case city was involved in a large EU project IRIS (Integrated and Replicable Solutions for

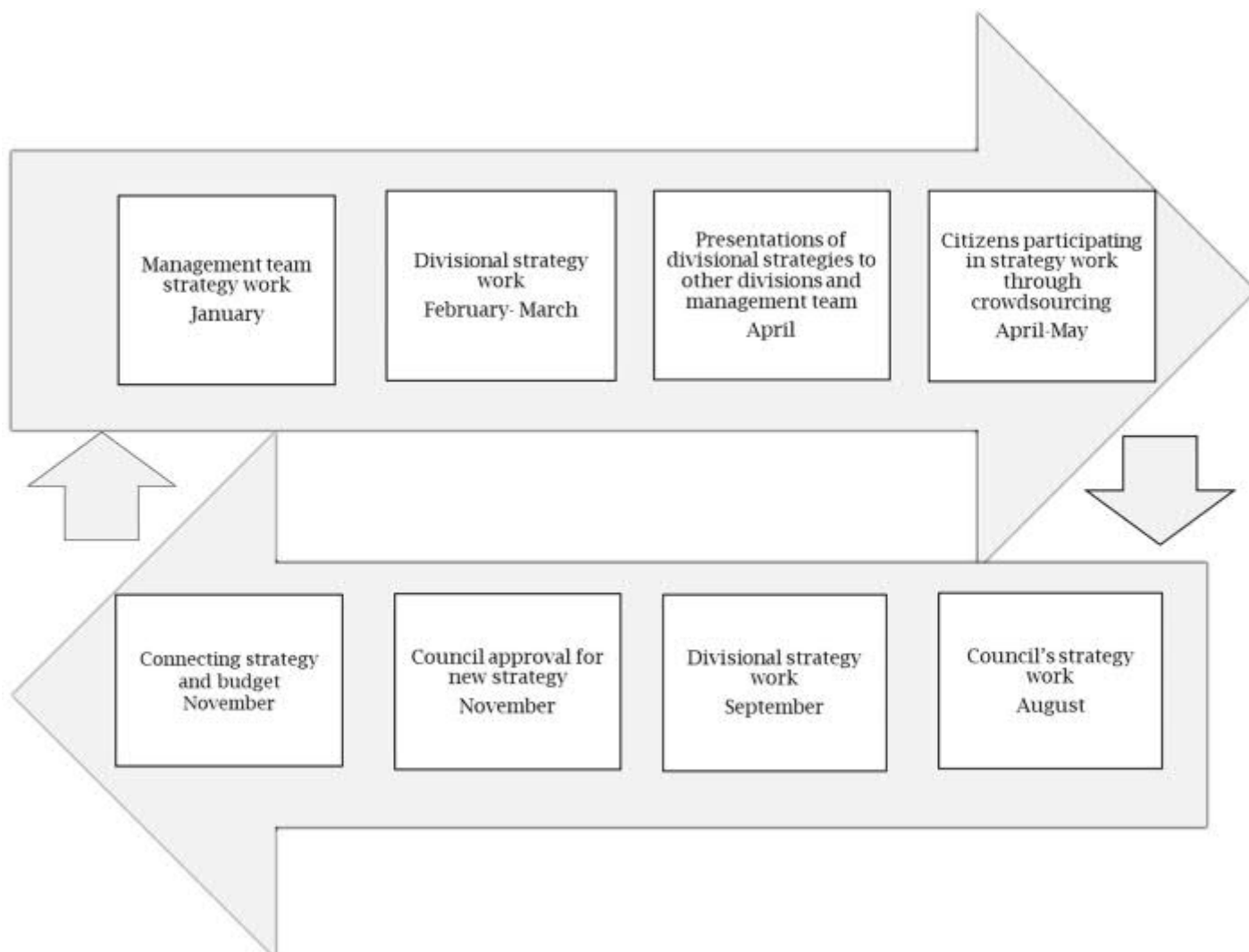


Figure 1. Strategy process in the city of Vaasa 2017.

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Sustainable Cities), which focuses on five key themes: 1) energy-positive regions, 2) smart energy handling, 3) smart e-mobility, 4) an innovation platform for digital cities, and 5) citizen participation and co-creation. The project aimed at developing sustainable business models and innovations as well as seizing the opportunity to implement and disseminate the entities developed within the project. The project also aimed to change the behavior of residents by producing innovative solutions based on digital applications and exploiting the possibilities of open knowledge. In this study, we focus on the role of participation and co-creation (see also Mattoni, Gugliermetti, & Bisegna, 2015).

The research data was collected through a crowdsourcing tool, which was used 1971 times during one month between 29.3.2017-1.5.2017. Respondents' background variables included gender, age, and assigned role as citizen, city employee, company representative, community representative, or political decision-maker. It was possible to respond to the survey in Finnish, Swedish or English. The survey consisted of six different sections, entitled 1) How did Vaasa manage to serve you last year?, 2) What do you think are the most important service roles in Vaasa?, 3) In your opinion, what kind of city is future Vaasa, where it is good to live, act, and influence?, 4) What is a good direction for Vaasa?, 5) In the future, where should the city invest?, and, 6) What should be done in practice? In some sections, statements were prepared in response to the questions, and the respondents could assess their accuracy and significance. But for a significant portion of the questionnaire the response options were empty, and the respondents could raise completely unclassified themes that were recorded in order to be the subject of peer review by other respondents. In this case, it was possible to confirm or refute the importance of the topics based on the other respondents' thoughts and experiences (see also Malhotra et al. 2017). The most important observation from the point of view of executing the survey can be considered a great interest in the possibility of citizens to present their views on the future of Vaasa. With approximately two thousand responses, the survey clearly became more popular than many other similar surveys carried out at the same time in Finland, both by public and private organizations. When looking at the crowdsourcing results, each single theme was looked at from two different perspectives: 1) How many times the topic was mentioned, and 2) How important the theme was evaluated as being. A high ranking in one perspective did not necessarily mean a similar ranking in the other.

During the analysis process, the data were initially studied by an external actor. The researchers subsequently obtained the raw data from the external actor for analysis and crosschecked their interpretations of the data to ensure its trustworthiness (Lincoln & Guba, 1985). All three researchers were closely connected to the case organization during data collection because of the ongoing strategy process. Although the findings of the study emerge from a specific context of a single case study, the results provide some more common concepts and ideas that can be used to study these issues in other case contexts (Corley & Gioia, 2004; Lincoln & Guba, 1985)

Results

The strategy process in the city of Vaasa 2017 (Figure 1) included management team level strategy work, divisional strategy work, the participation of citizens through crowdsourcing, council-level strategy work, and decision making. Four strategy tools were used in all internal strategy workshops: 1) the strategic capabilities framework, 2) a value curve, 3) a strategy map, and 4) a goals, measures, and initiatives —table. The same strategy tools have been used in the city's strategy process since 2013, so most of the organizational members were familiar with the tools. This enabled the organization to take the next step and emphasize the inclusion of citizens in the strategy process. Each of the workshops built on the outputs of previous workshops, enabling the deepening of city strategy and a shared understanding of the organization's future.

Engaging in open strategy in the city of Vaasa through crowdsourcing

The results of this article elucidate the role of crowdsourcing as a tool for enabling co-creation and innovation in the strategy process of the city of Vaasa. The crowdsourcing process took place in May 2017, after the management team and divisions began a new strategy process at the beginning of the year. With crowdsourcing, it was important to the case organization that they could also give sufficient background information to participants to ensure that people had a somewhat similar understanding of the questions. In addition, the crowdsourcing tool enabled citizens to "discuss" the topics by emphasizing each other's responses so that the topics evolved through the crowdsourcing process.

In the city of Vaasa, the most important topics that were discussed in the citizens' responses were as follows: 1) supporting employment and entrepreneurship, 2)

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Table 1. Targets, indicators and actions in the city of Vaasa strategy 2017.

TARGETS	INDICATORS	ACTIONS
WELL-BEING		
Well-being of the population	<ul style="list-style-type: none"> • TEA indicators for how actively health and well-being are promoted • Sense of security 	<ul style="list-style-type: none"> • The city center school campus • More efficiently integrating of new residents • Transferring services online • Encouraging the network of associations to participate and promoting the visibility of services • H-building, establishing a well-being and health care unit • Methodically using of impact assessment in decision-making • Supporting and developing bilingualism and creating a language strategy as soon as possible
Strengthening representative and direct democracy	<ul style="list-style-type: none"> • Number of appeals on municipal decisions 	<ul style="list-style-type: none"> • Implementing the City's Participation Programme – making use of resident surveys • Improving utilisation of the feedback service
Carbon neutral Vaasa 2035	<ul style="list-style-type: none"> • Carbon dioxide emissions 	<ul style="list-style-type: none"> • Implementing the energy and climate programme
ATTRACTION		
Improving competitiveness; Tax revenue among the TOP 6 cities	<ul style="list-style-type: none"> • Corporation tax revenue • Tax revenue in comparison to other cities • Company dynamics (changes in company base) 	<ul style="list-style-type: none"> • Implementing of municipal mergers in a controlled and efficient way , while taking bilingualism into account • Acting as the platform for events, developing and designing "Vaasa Events" • Selling Vaasa and nurturing its connections to the world; Increasing tax revenue through new business acquisitions; Strengthening connections to Asia • Strengthening the operations of the Vaasa University Campus
Population growth >100,000 inhabitants by 2021	<ul style="list-style-type: none"> • Population growth cp. previous year • Rate of migration to other municipalities 	<ul style="list-style-type: none"> • Investments in the living environment and infrastructure, incl. both new projects and the maintenance of existing structures • Investments in preventative work
Employment rate >75%	<ul style="list-style-type: none"> • Number of employed persons (18-64-year old) per capita 	<ul style="list-style-type: none"> • Activation of innovation activities • Supporting the employment of experts and helping them to grow roots here
Competitive urban structure	<ul style="list-style-type: none"> • Number of plot and plan reserves • The lead time of building permits • The lead time of town plans 	<ul style="list-style-type: none"> • Strengthening air, rail and shipping traffic • Developing innovative public procurements • Developing public transport and the bicycle network • Implementing the Kurikka groundwater project • Extending the pedestrian precinct to the shore and university campus • Developing and revitalising the city centre and market place
STRONG ECONOMY		
Balanced economy	<ul style="list-style-type: none"> • Accrued surplus • Debt collection/inhabitant • Annual margin • Person-work-years • Operating revenues 	<ul style="list-style-type: none"> • Strict compliance with the binding balancing plan • Taking private funding/crowdfunding into account in investments, public-private partnerships • Developing monitoring and reporting procedures, opening up realised financial out-turns

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Smart and effective asset management	<ul style="list-style-type: none"> • Development of premises 	<ul style="list-style-type: none"> • Increasing the occupancy rate of properties, abandoning external rental properties, anticipatory management of the use of premises • Developing contract management • Developing corporate governance
PERSONNEL, COMPETENCE AND MANAGEMENT		
Employee well-being and productivity	<ul style="list-style-type: none"> • Number of sick leave absences • Results of job satisfaction survey 	<ul style="list-style-type: none"> • Developing leadership and management skills: Coaching-style management and workplace well-being management • Developing the management system • Developing competence and work community skills in the workplace • New models for work (digitisation, automation of routine tasks)

safety, 3) education, 4) exploiting expertise, 5) nearby services, 6) preventative action, 7) environment and sustainable development, 8) transparency and communication, 9) experiencing equality, and 10) opportunities to influence. The first of these, support for employment and entrepreneurship, became particularly significant because great importance among the respondents legitimized the ideological basis of the strategy work among policy makers: in the city of Vaasa, one of the basic elements of strategy work since 2013 had been increasing attractiveness and social development through employment and job creation. In addition, education was raised as an important area in which the city should target future investment. The answers also raised visible tensions that have smoldered between political parties; e.g., Vaasa has been active in accepting asylum seekers, which has caused debates between the right and left parties. This is also reflected in safety being highlighted. Furthermore, Vaasa is a compact area where there have been many nearby services (e.g., 7 health care stations in a 10 km radius from the city centre). Pruning nearby services caused a wave of protests and is visible in citizens' answers. Additionally, transparency, communication, equality and influencing opportunities were seen as important. When looking at the actions the city committed in its strategy (Table 2), it reflects quite well the emphasis of citizens' opinions.

The topics citizens highlighted in their answers as the most important emerged significantly in Vaasa's strategy. In Figure 2, left side, are the ten most important areas where Vaasa should invest in the future, listed in the order they were ranked in the data. The right side of the figure shows how these emerged in strategic actions the city committed in its 2017 strategy process. As shown, the topics citizens evaluated as important were emphasized heavily in the organizational strategy work. Naturally, the responses also contained a large number of sub-proposals, views

and suggestions, which were utilized for divisional level strategy work, as well as suggestions that were ultimately not included in the final strategy work. The conclusions of the crowdsourcing process were included in the background material and presented to city councilors in the strategy workshop of August 2017. Each of the divisional directors in the city facilitated a strategy workshop with a group of councilors, which enabled building a shared understanding of city strategy through dialogical discussions. These discussions were condensed in the final strategy, which was approved in November 2017.

Both citizens and city officials stressed employment and competitiveness in their opinions. It was seen as extremely important that the city be able to attract new companies to the area, and thereby create new jobs and increase tax revenue. Furthermore, as citizens were worried about city safety, officials addressed the issue from many different angles: they highlighted the significance of efficient integration of new residents, invested in preventative work, and aimed to develop public transportation and the bicycle network. Investments in education are highlighted in the new city centre school campus strategy, and by strengthening operations at the Vaasa University campus. In addition, investments in the environment and in sustainable development were of special interest to both groups. Implementation of a broad energy and climate program and strengthening air, rail and shipping traffic are actions committed to in its strategy.

Conclusion

This study set out to analyze the role of crowdsourcing as a sociomaterial tool enabling co-creation and innovation to improve citizen involvement in a city's strategy work. As an alternative to traditional strategy work for the upper echelons, we propose opening strategy work in the spirit of smart city development. As

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Figure 2. Connections between the top ten areas Vaasa should invest as defined by citizens and the strategic actions the city committed in its strategy work.

shown in the results of the present study, citizen opinions feed strategy work and should be taken into account if the top management team is ready to relinquish some part of its control and power to other stakeholders. Giving any amount of control away is not an easy task, but one that requires an open mind and confidence in fellow citizens' co-creative capacity. As such, opening strategy work to all, not only provides a rich variety of ideas, but also may help facilitate implementation when the time comes (Birkinshaw, 2017; Felin, Lakhani, & Tushman, 2017; Whittington et al., 2011). Involvement is the way to gear the city towards the implementing smart city initiatives.

In retrospect, the route taken by research's case organization towards open strategy and smart city

development has progressed bit by bit: first, councilor participating in strategy work, then employees from different organizational levels, and finally citizens. This type of baby-step progression provided a means for opening the strategy work to a broader range of participants (Whittington et al., 2011) and might be one reason why the strategy work development has been successful (Heracleous et al., 2018). It has allowed sufficient time for organizational members to have meaningful discussions with each other and build a shared understanding in and around strategy, with sociality at the centre of open strategizing (Felin et al., 2017). In this way, the organization was ready and open to accept insightful ideas from citizens. As such, this participative working method has facilitated knowledge integration and reduced conflicts (Malhotra et al., 2017).

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The present study demonstrated both a process and some micro-level outcomes of a smart city using crowdsourcing as a means of open strategizing.

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