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Hierarchical Attributes of Selected Stakeholders Participation in City Planning and Development: A Case Study of Khon Kaen Smart City, Thailand

คุณลักษณะของลำดับศักย์ในการมีส่วนร่วมของผู้ได้ส่วนเสียที่ได้รับการคัดเลือกในกระบวนการวางแผนพัฒนาเมือง:กรณีศึกษาขอนแก่น เมืองอัจฉริยะ ประเทศไทย

Seng Touch[1]*, Rawee Hanpachern[2], Meng Bunnarith[3] and Khwanchanok Ampha[4]

[1] Department of Science Technology and Innovation Policies, MISTI, Phnom Penh, Cambodia

[2] Faculty of Architecture, Khon Kaen University, Thailand

[3] General Department of Land Management and Urban Planning, Cambodia

[4] Faculty of Education, Roi Et Rajabhat University, Thailand

* Corresponding author e-mail: sengtouchrupp2014@gmail.com

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Abstract

This paper aims to determine the hierarchical classification of attributes of participation used by planners and selected stakeholders in a participatory planning approach to smart city development. It also attempts to answer the unresolved question raised by Wandersman Giamartino (1980): “If participation is so rewarding and effective, why doesn’t everyone participate?” The exploratory sequential mixed method was used for data collection. The results of the qualitative approach were used to develop the questionnaires that were conducted with 18 experts or planners and 111 selected stakeholders. The results showed that interest and area-based population were the key attributes used by the planning geniuses/planners to select stakeholders participating in the participatory planning processes. On the other hand, the selected stakeholders relied on interest, area-based population, influence and urgency to decide to participate in the participatory planning process of Khon Kaen Smart City. In addition, the selected stakeholders preferred on-site participation rather than electronic participation and informal and indirect participation channels to influence decision-makingprocesses.

Keywords

Attributes of participation

Selected stakeholder

Participatory planning process

Smart city

Planners

บทคัดย่อ

บทความนี้มีวัตถุประสงค์เพื่อพิจารณาการจำแนกประเภทลำดับศักย์ของคุณลักษณะการมีส่วนร่วมโดยนักวางแผนพัฒนาเมือง และผู้มีส่วนได้ส่วนเสียที่ได้รับการคัดเลือกในแนวทางการวางแผนแบบมีส่วนร่วม เพื่อการพัฒนาเมืองอัจฉริยะนอกจากนี้ยังพยายามที่จะมีส่วนร่วมในการถามคำถามที่ยังไม่ได้รับคำตอบที่มีการหยิบยกมาจากวันเดอร์สมาน เกียมาร์ติโน (2523) ที่ว่า “ ถ้าหากการมีส่วนร่วมนั้นมีความคุ้มค่าและมีประสิทธิภาพ เพราะเหตุใดทุกคนจึงไม่เข้าร่วม” งานวิจัยนี้เป็นการวิจัยผสานวิธีแบบขั้นตอนเชิงสำรวจซึ่งถูกนำมาปรับใช้สำหรับขั้นตอนการเก็บรวบรวมข้อมูล ผลการวิจัยเชิงปริมาณโดยการใช้แบบสอบถามกับผู้เชี่ยวชาญทางด้านวางแผนพัฒนาเมืองหรือนักผังเมือง 18 คน และ ผู้มีส่วนได้ส่วนเสียที่ได้รับการคัดเลือก 111 คน ผลการวิจัยชี้ให้เห็นว่าความสนใจ อิทธิพล และการอยู่ในพื้นที่ เป็นคุณลักษณะที่สำคัญของหน่วยงานเพื่อการวางแผนหรือนักวางแผน นำมาใช้คัดเลือกผู้มีส่วนได้ส่วนเสียให้เข้าร่วมในกระบวนการวางแผนแบบมีส่วนร่วม ในขณะที่ผู้มีส่วนได้ส่วนเสียที่ได้รับการคัดเลือกซึ่งขึ้นอยู่กับความสนใจ การอยู่ในพื้นที่ อิทธิพล และความเร่งด่วนได้ตัดสินใจเข้าร่วมกระบวนการวางแผนแบบมีส่วนร่วมของเมืองอัจฉริยะขอนแก่น นอกจากนี้ ผู้มีส่วนได้ส่วนเสียที่ได้รับการคัดเลือกมักชอบการมีส่วนร่วมในสถานที่ประชุมมากกว่าการมีส่วนร่วมในลักษณะออนไลน์อันเป็นการมีส่วนร่วมอย่างไม่เป็นทางการและการมีส่วนร่วมทางอ้อมซึ่งมีอิทธิพลต่อกระบวนการตัดสินใจ

คำสำคัญ

คุณลักษณะของการมีส่วนร่วม
ผู้มีส่วนได้ส่วนเสียที่ได้รับการคัดเลือก
กระบวนการวางแผนแบบมีส่วนร่วม
เมืองอัจฉริยะ
นักวางแผน

1. Introduction

Citizens can be the shock troops of democracy, as their local knowledge, wisdom, commitment, authority, and even righteousness, if properly deployed, can remedy the serious deficiencies of legitimacy, justice, and efficiency in representative and bureaucratic institutions (Fung, 2006). Over the past two decades, citizen engagement and participation, which contribute to improved governance and development outcomes, have been mainstreamed in development policy and discourse (Gaventa & Barrett, 2012). Citizen engagement and participation have been recognised since the collapse of traditional planning as physical and design planning in the late 1960s, which were the dominant top-down models and expert-driven planning approaches (Tandon, 2008).

Public participation is a widely used process to facilitate better decision making in urban planning and development (Davies et al., 2012). More importantly, participation can be recognized as a practice of stakeholder engagement that is a means to achieve participatory democracy, transparency in the decision-making process, community empowerment and support, and avoidance of conflict over decisions between decision-makers and public groups as well as between groups (Yee, 2010). However, participation cannot take place if stakeholders are not involved in the planning process. Stakeholders involved in the project have also changed over time due to the nature of the planning model at the time (Touch & Rawee, 2018). The stakeholders may be directly or indirectly affected by the process or outcome (World Health Organization [WHO], 2005). In addition, different stakeholders will be involved at different points in the project life, and additional stakeholders may need to be involved if certain issues arise during the project life (Kelly et al., 2004). The hallmarks of a good public participation process are that all stakeholders can be engaged, information is shared openly and willingly, and people are engaged in meaningful interaction. In addition, it attempts to take into account multiple interests (Webler & Tuler, 2006).

On the other hand, the fourth pillar of sustainable urban development is governance, which is very important to drive the city forward to meet economic needs as well as social and environmental development. As (Murray et al., 2011) stated, growing cities can develop to meet the economic, environmental, social and cultural needs of their citizens. Moreover, “smart governance” and “smart people” are two of the six most important pillars of a smart city concept (Giffinger & Gudrun, 2010; Steinert et al., 2011). The actual values that shape smart cities are based on a balance of these pillars (Tahir & Malek, 2016). The description of a smart city is often context dependent. However, it is generally assumed that a city is not smart if stakeholders within a city are not involved at all levels in the decision-making and planning processes that develop and direct a city towards its vision (Mortensen et al., 2012). It is believed that the collaboration of all relevant stakeholders, including citizens, entrepreneurs, policy makers and the education sector, is the driving factor for urban creativity engines (Alraout, 2006). Stakeholders have become an important part of the smart city. Especially in P, they play an important role in participation in decision making, transparent governance and participation in public life.

The most concrete outcome from the political upheaval was the promulgated 1997 Constitution that has expanded the rights of Thai people to work in civil society movement, and greatly extended direct civic participation in government policymaking, as well as created new organizations to ensure accountability under the law. After changing the Thai political system from absolute monarchy to democracy, this is not only used to shape the participatory-democratic consciousness of citizens and, also facilitates civic groups to participate in the formulation process of the government policy.

(Ondee & Pannarunothai, 2008). The adoption of the Constitution in 1997 was intended to promote and build a more open and democratic society. Moreover, it has been more clearly reflected in the 1990s Eighth National Economic and Social Development Plan. The 1997 Constitution, Sufficiency Economy Philosophy and the Decentralization Plan and Procedures Act of 1999 have become the foundations of the concept of participation that has prevailed and evolved in the development process in Thailand. The participatory community plan, community empowerment and the involvement of all stakeholders in the decision-making process from the local to the national level have been recognized as good examples of participation in Thailand (Sopchokchai, 2001). For example, the municipality of Khon Kaen has relied on participatory planning for urban development and has strengthened collaboration with the public through various participatory processes. One of them is Khon Kaen Smart City, a large and successful development project in Thailand. The Khon Kaen Smart City is implemented with six themes, including smart mobility, smart housing, smart citizens, smart economy, smart environment, and smart governance (Sudhipongpracha & Wongpredee, 2016).

Although stakeholder engagement appears to be a win-win solution and increases the legitimacy of decisions through the participation of affected groups, alliance and collaborative decision making can also be criticized when stakeholders have only symbolically participated in decision making without actually exercising power (Holzer, 2007). According to (Wandersman & Giamartino, 1980), cited in Swapan (2016), it also raises the fundamental question, "If participation is so rewarding and effective, why does not everyone participate?" (Swapan, 2016). The causes of this fundamental question are associated with lack of interest and motivation, lack of specific skills and opportunities, and socio-economic, political and cultural barriers (Tosun, 2005; Mohammadi, 2010; Swapan, 2016). This is particularly true of low motivation and participation of citizens in planning projects in developing countries (Tosun, 2005 cited in Swapan, 2016).

Increasing dissatisfaction with the process and outcome of planning often leads to a general rejection that manifests itself in various forms of protest and conrontation with new policies and projects within the planning system (Mohammadi, 2010). Moreover, empirical evidence shows that relatively few citizens participate in the planning or project process when they have the opportunity to do so. Similarly, Parker and Murray (2012) show that it is not enough for planners and other professionals to blame this on apathy when people do not engage in the planning process. The reasons for this are likely to be the unappreciated and incompatible structure and process, and the target profile of the participants. In addition, the level of citizen participation is directly related to the amount of effort put in by planning authorities (Cornwall & Gaventa, 2000). Accordingly, the group of people involved in the planning or project is mainly determined by the planning authority (Dodds, 2002). Citizens are becoming more involved in the decision-making process as planning authorities seek a more functional partnership with a higher degree of participatory mechanisms (Bishop & Davis, 2002). The selection of stakeholders for the planning process is still influenced by external factors such as network connections, patronage systems, patronage relationships and unequal treatment in terms of social, economic, authoritative power and prestige status, as well as internal factors, i.e. the characteristics of participation. This paper has therefore attempted to classify the characteristics of stakeholder participation in the participatory planning processes of Khon Kaen Smart City in order to find an answer to the fundamental question raised since the 1980s: "If participation is so rewarding and effective, why does not everyone participate?".

2. Study Methodology

2.1 The operational definition of the attributes of participation.

The attributes of participation in this study are interest, area population, power, influence, legitimacy, democratic principle and urgency. Each attribute of participation can be defined in this context.

- Interest is the feeling of wanting to be involved with or learn more about something (Cambridge University Press and Assessment, 1995). It is the way participants look for urban development solutions related to the project, increase their knowledge and expertise related to the project, etc.

- Resident power refers to the participants who believe that the decision making and implementation of the project will directly affect them, their family or community, etc.

- Power is an authorized power that gives participants the authority to change the behavior of others and make them do things they might not do (Espinosa-Orias and Sharratt, 2006). It is formal power that comes from a formal position of a person with legitimate authority to use positive and negative powers in the form of reward and coercion (Bass, 1960).

- Influence, in contrast to power, is an informal power that represents the ability to lead, direct, or accomplish something without having an official title of leadership. It arises from the inner qualities of a person. Informal power is associated with the sources of power associated with unique characteristics that depend on an actor's competence, character or relationships, experienced or expert skills, and expertise in specific areas (Peiró & Meliá, 2003).

- Legitimacy is an opportunity given to stakeholders to identify a type of beneficial or harmful risk relevant to their organization or in the planning processes. Participants believed that their involvement is legitimate to meet regulations and requirements according to a general perception of laws and rules (Espinosa-Orias & Sharratt, 2006).

- Urgency is the extent to which a stakeholder is able to demand immediate attention to concerns or issues, where participants felt that the time sensitivity and criticality of the project required immediate attention to concerns or issues (Espinosa-Orias & Sharratt, 2006).

- The democratic principle always refers to the autonomous or self-governing freedom defined by the laws or regulations of the country (Pateman, 2012). The participants followed the Thai culture and society which has the democratic philosophy that people have the right to influence what affects them.

- Selected stakeholders are people who participate in the project or planning process and are usually selected by a planning agency (planner). These stakeholders usually participate in formal participatory planning events (on-site participation) by receiving a formal invitation from the planning agency and/or the relevant higher authority.

- A planning authority is an agency designated by the Administrator and authorized by the laws of a state or political subdivision of one of those entities to conduct area-wide planning for the areas in which assistance is to be used under this part. Planning authority is generally recognized by the authority empowered to define a set of stakeholders in the planning or project.

- On-site participation refers to any formal participatory planning event held in a visible and tangible location, including a focus group discussion and a public hearing.

- Informal or indirect participation means that stakeholders do not engage directly with the planning agency, but instead take their complaints to a trusted local politician or village or community leader who is active and has convenient access to the planning agency.

- E-participation refers to the voluntary participation and involvement of citizens in matters of public administration and public decision-making through the use of web-based applications provided by the government, including online forums, virtual

discussion rooms, electronic juries, and electronic surveys (Kim & Lee, 2012; Organisation for Economic Co-operation and Development [OECD], 2003).

2.2 Data collection instruments and procedures

The exploratory sequential mixed methods design (Creswell, 2014) was used for the data collection procedure. First, 15 experts and 15 stakeholders were randomly interviewed. Here, experts are the planners who have experience in selecting stakeholders in their project within Khon Kaen Smart City and other projects, while participants are those who articipated in the planning processes. Then, the questionnaires were developed based on the interview results and used with the experts and participants. Eighteen experts were invited to complete the questionnaires. The experts were from three projects: Khon Kaen Smart City, Khon Kaen Light Rail Transit and awareness and understanding of Smart City. These projects fall under the theme Khon Kaen Smart City. However, each project consisted of different participatory processes. Consequently, the total number of participants could not be determined. According to Rex B. Kline (1998), multiple statistics should use a sample size that is at least ten times the number of cases as a parameter (Kline, 1998) or ideally twenty times a variable. Therefore, the total sample size should be at least 70 since this study contained seven characteristics of participation including interest, area-based population, influence, power, legitimacy, democratic principle and urgency. In this regard, 111 participants were covered through the convenient data collection where telephone calls were made before the questionnaires were distributed to them. Also, the questionnaire was mailed to the participants who agreed to participate in the survey. The attributes of participation were based on a scale of 1-5 agreement: 1 - do not agree at all, 2 - do not agree, 3 - neither agree nor do I agree, 4 - agree and 5 - fully agree. The data from the experts and participants were analyzed using descriptive statistics (mean, frequency, percentage, standard deviation and median) and inferential statistics (Wilcoxon Signed-Ranks Test). The Wilcoxon signed-rank test is a nonparametric statistical hypothesis test used when the distribution of the difference between the means of two samples cannot be assumed to be normally distributed to compare two related samples, matched samples, or repeated measures on a single sample to determine whether their means differ in the population. It also indicates the direction of the difference (less than or greater than) between the samples (McDonald, 2014).

3. Findings

3.1 Respondents' profile

A total of 18 participants in a group of experts were interviewed with a questionnaire. Sixty-one percent (61%) were male, while 39% of the expert group were female. On the other hand, most of the experts were aged 30-39 years or 40-49 years (28%). (Table 1)

Table 1. The profile of the expert/planner group

Age	Number (percentage)		
	Male	**Female**	**Total (%)**
20-29	0	2	11
30-39	4	1	28
40-49	4	1	28
50-59	1	2	17
Over 59	2	1	17
Total	11 (61)	7(39)	100

Fifty-eight and six-tenths percent (58.6%) of the respondents were male. Thirty-seven percent were aged 30-39 years while 24.3% were aged 40-49 years. In terms of occupational profile, 48.89% of the selected stakeholders were employed while 27.78% were self-employed. In addition, the education level of the respondents varied, including bachelor (39.6%), master (31.5%), and high school (18%). Most of the subjects (50.5%) were able to earn an income between 15100 and 25000 baht per

Table 2. Summary of participants' profile

Respondents' profile		N	%	Respondents' profile		N	%
Gender	Male	65	58.6	Education	Secondary school	8	7.2
	Female	45	40.5		High school	20	18.0
	Total	111	100.0		Bachelor	44	39.6
Age	20-29 years old	14	12.6		Master	35	31.5
	30-39 years old	42	37.8		Doctoral	2	1.8
	40-49 years old	27	24.3		Other	2	1.8
	50-59 years old	26	23.4		Total	111	100.0
	60 years old over	2	1.8	Income	Less than 10,000	4	3.6
	Total	111	100.0		10,100-15,000	5	4.5
Occupation	Employed for wages	44	48.89		15,100 -25,000	56	50.5
	Self-employed (own business)	25	27.78		25,100 -35,000	8	7.2
	Student	6	6.67		35,100 -45,000	10	9.0
	Retired	3	3.33		45,100 -55,000	13	11.7
	Unemployed	4	4.44		Over 55,000	15	13.5
	Other	8	8.89		Total	111	100.0
	Total	90	100.00				

month, while 11.7% were able to earn between 45100 and 550000 baht per month. However, 13.5% of the respondents earned more than 55000 baht per month, which is 13.5% of all respondents. (Table 2)

Seven attributes of participation Attributes of participation including interest, area-based population, power, influence, legitimacy, urgency, and democratic principle) were paired without considering the order. The combination formula was used to calculate the number of attribute pairs to be tested to determine the hierarchy of attributes of selected interest groups. The calculation was done by combination as follows.

C(n,r) = n!/((n-r)!r!), where n things taken, r at a time

Or C(7,2) = 7!/(7-2)!2!=21 pairs

In addition, the table of attribute pair signed rank test and acceptance statistics of selected interest groups and the table of attribute pair signed rank test statistics of selected interest groups were considered to determine the hierarchy of attributes of selected interest groups.

The attribute pair signed rank test table and selected interest group acceptance statistics show the attribute pair signed rank test indicating negative ranks, positive ranks, and equality. Negative ranks indicate that the first attribute is lower than the second attribute, while positive ranks indicate that the second attribute is higher than the first attribute. Equal ranks indicate that the first and second attributes are equal. This table also shows the assumption that it is based on the sum of ranks. Thus, the sum of ranks can define whether to test negative ranks or positive ranks in the table of attribute pairs for the signed-rank test statistics of selected stakeholders. In this case, if the sum of the ranks of the negative ranks is greater than the sum of the ranks of the positive ranks, it can be assumed that the second attribute is greater than the first attribute if the significant value is less than 0.05

(p 0.05). However, if the sum of the ranks of the negative ranks is lower than that of the positive ranks, then it can be assumed that the second attribute is lower than the first attribute if the significant value is less than 0.05 (p 0.05). If the significant value is greater than 0.05 (p 0.05), it means that the first attribute and the second attribute are the same. The table of attribute pairs with signed-rank test statistics of selected stakeholders is used to test the inference of Wilcoxon Signed-Ranks based on the significant value.

3.2 Hierarchy of attributes of selected stakeholders.

Table 3 shows that 21 respondents ranked area bound population lower than interest (sum of negative rank = 399), while 21 respondents ranked area bound population higher than interest (sum of positive rank = 504) and the other 54 respondents ranked area bound population and interest equally. This table also shows that the sum of negative scores was greater than the sum of positive scores. Therefore, it was assumed that the area bound population was lower or smaller than the interest if the significant value was less than 0.05 (p0.05).

In Table 4, the sum of the ranks of the negative ranks and the positive ranks of each pair was obtained from the experts. For example, the paired signed-rank test of influence and interest showed that 7 respondents (experts/planners) ranked influence lower than interest (sum of ranks=37.00), while 2 experts ranked influence higher than interest (sum of ranks=8.00) and 9 experts ranked influence and interest the same. This table also shows that the sum of negative ranks of this pair was greater than the sum of positive ranks. Thus, the sum of the ranks of the pair influence and interest shows that influence should be less or smaller than interest if the significant value is less than 0.05 (p 0.05).

In reviewing the test statistics for the "participation" attribute of selected stakeholders, the results of Wilcoxon Signed Ranks Test showed that some pairs of signed-rank tests were statistically significant, while other pairs were not. For example, the pair-wise signed-rank test of influence and interest was not statistically significant (p 0.05). Therefore, influence and interest were in the same cluster. On the other hand, the signed-rank test for the pairs of power and interest was statistically significant (p 0.05) and Z=-5.106b. This means that the median of power was lower than the median of interest. Therefore, interest rank (median rank=31.42) was statistically significantly higher than power rank (median rank=25.90), Z = -5.106, p .000. These explanations were also applied to other attribute pairs of the signed-rank test (Table 5). In addition, the signed-rank tests for the attribute pairs were transformed into a matrix table to classify the hierarchy of attributes of participation of the participating stakeholders (table 6).

The participation matrix based on Table 5 (Participation Attributes of Selected Stakeholders) shows that the participation attributes of selected stakeholders participating in the planning process have been classified into three hierarchical clusters, including (1) the first hierarchical cluster (interest, resident population, influence, and urgency), (2) the second hierarchical cluster (democratic principle and legitimacy), and (3) the third hierarchical cluster (power). Interest, area population, influence, and urgency were not statistically significantly different, suggesting that they were in the same cluster. This cluster was statistically significantly higher than the second hierarchical cluster (Democratic Principle and Legitimacy) and the third hierarchical cluster (Power) (table 6).

Table 3. Attribute pairs signed-rank test and assumption statistics of selected stakeholders

Attribute pairs signed-rank test		N	Mean Rank	Sum of Ranks	Assumption
Area-based population - Interest	Negative Ranks	21[a]	19.00	399.00	a. Area-based population < Interest
	Positive Ranks	21[b]	24.00	**504.00**	**b. Area-based population > Interest**
	Ties	54[c]			c. Area-based population = Interest
Influence - Interest	Negative Ranks	22[a]	21.41	471.00	a. Influence < Interest
	Positive Ranks	21[b]	22.62	**475.00**	**b. Influence > Interest**
	Ties	53[c]			c. Influence = Interest
Power - Interest	Negative Ranks	50[a]	31.42	**1571.00**	**a. Power < Interest**
	Positive Ranks	10[b]	25.90	259.00	b. Power > Interest
	Ties	36[c]			c. Power = Interest
Legitimacy - Interest	Negative Ranks	41[a]	26.21	**1074.50**	**a. Legitimacy < Interest**
	Positive Ranks	12[b]	29.71	356.50	b. Legitimacy > Interest
	Ties	43[c]			c. Legitimacy = Interest
Democratic- Interest	Negative Ranks	40[a]	27.40	**1096.00**	**a. Democratic< Interest**
	Positive Ranks	16[b]	31.25	500.00	b. Democratic> Interest
	Ties	40[c]			c. Democratic= Interest
Urgency - Interest	Negative Ranks	20[a]	20.00	400.00	a. Urgency < Interest
	Positive Ranks	21[b]	21.95	**461.00**	**b. Urgency > Interest**
	Ties	55[c]			c. Urgency = Interest
Influence - Area-based population	Negative Ranks	12[a]	11.13	**133.50**	**a. Influence < Area-based population**
	Positive Ranks	9[b]	10.83	97.50	b. Influence > Area-based population
	Ties	75[c]			c. Influence = Area-based population
Power – Area-based population	Negative Ranks	61[a]	37.50	**2287.50**	**a. Power < Area-based population**
	Positive Ranks	12[b]	34.46	413.50	b. Power > Area-based population
	Ties	23[c]			c. Power = Area-based population
Legitimacy - Area-based population	Negative Ranks	53[a]	32.87	**1742.00**	**a. Legitimacy < Area-based population**
	Positive Ranks	14[b]	38.29	536.00	b. Legitimacy > Area-based population
	Ties	29[c]			c. Legitimacy = Area-based population
Democratic- Area-based population	Negative Ranks	48[a]	31.31	**1503.00**	**a. Democratic< Area-based population**
	Positive Ranks	16[b]	36.06	577.00	b. Democratic> Area-based population
	Ties	32[c]			c. Democratic= Area-based population
Urgency - Area-based population	Negative Ranks	12[a]	13.00	**156.00**	**a. Urgency < Area-based population**
	Positive Ranks	12[b]	12.00	144.00	b. Urgency > Area-based population
	Ties	72[c]			c. Urgency = Area-based population
Power - Influence	Negative Ranks	59[a]	35.18	**2075.50**	**a. Power < Influence**
	Positive Ranks	10[b]	33.95	339.50	b. Power > Influence
	Ties	27[c]			c. Power = Influence
Legitimacy - Influence	Negative Ranks	51[a]	31.25	**1594.00**	**a. Legitimacy < Influence**
	Positive Ranks	14[b]	39.36	551.00	b. Legitimacy > Influence
	Ties	31[c]			c. Legitimacy = Influence
Democratic- Influence	Negative Ranks	47[a]	30.50	**1433.50**	**a. Democratic< Influence**
	Positive Ranks	16[b]	36.41	582.50	b. Democratic> Influence
	Ties	33[c]			c. Democratic= Influence
Urgency - Influence	Negative Ranks	7[a]	8.00	56.00	a. Urgency < Influence
	Positive Ranks	9[b]	8.89	**80.00**	**b. Urgency > Influence**
	Ties	80[c]			c. Urgency = Influence

Table 3. Attribute pairs signed-rank test and assumption statistics of selected stakeholders (continue)

Attribute pairs signed-rank test		N	Mean Rank	Sum of Ranks	Assumption
Legitimacy - Power	Negative Ranks	8[a]	10.56	84.50	a. Legitimacy < Power
	Positive Ranks	19[b]	15.45	**293.50**	**b. Legitimacy > Power**
	Ties	69[c]			c. Legitimacy = Power
Democratic- Power	Negative Ranks	4[a]	7.00	28.00	a. Democratic< Power
	Positive Ranks	20[b]	13.60	**272.00**	**b. Democratic> Power**
	Ties	72[c]			c. Democratic= Power
Urgency - Power	Negative Ranks	9[a]	37.00	333.00	a. Urgency < Power
	Positive Ranks	63[b]	36.43	**2295.00**	**b. Urgency > Power**
	Ties	24[c]			c. Urgency = Power
Democratic- Legitimacy	Negative Ranks	7[a]	9.57	67.00	a. Democratic< Legitimacy
	Positive Ranks	12[b]	10.25	**123.00**	**b. Democratic> Legitimacy**
	Ties	77[c]			c. Democratic= Legitimacy
Urgency - Legitimacy	Negative Ranks	10[a]	39.60	396.00	a. Urgency < Legitimacy
	Positive Ranks	50[b]	28.68	**1434.00**	**b. Urgency > Legitimacy**
	Ties	36[c]			c. Urgency = Legitimacy
Urgency - Democratic	Negative Ranks	14[a]	38.36	537.00	a. Urgency < Democratic
	Positive Ranks	48[b]	29.50	**1416.00**	**b. Urgency > Democratic**
	Ties	34[c]			c. Urgency = Democratic

Table 4. Attribute pairs signed-rank test and assumption of selected stakeholders by experts

Attribute pairs signed-rank test		N	Mean Rank	Sum of Ranks	Assumption
Area-based population - Interest	Negative Ranks	5[a]	5.00	25.00	a. Area-based population < Interest
	Positive Ranks	5[b]	6.00	**30.00**	**b. Area-based population > Interest**
	Ties	8[c]			c. Area-based population = Interest
Influence - Interest	Negative Ranks	7[a]	5.29	**37.00**	**a. Influence < Interest**
	Positive Ranks	2[b]	4.00	8.00	b. Influence > Interest
	Ties	9[c]			c. Influence = Interest
Power - Interest	Negative Ranks	11[a]	7.36	**81.00**	**a. Power < Interest**
	Positive Ranks	2[b]	5.00	10.00	b. Power > Interest
	Ties	5[c]			c. Power = Interest
Legitimacy - Interest	Negative Ranks	10[a]	6.80	**68.00**	**a. Legitimacy < Interest**
	Positive Ranks	2[b]	5.00	10.00	b. Legitimacy > Interest
	Ties	6[c]			c. Legitimacy = Interest
Democratic- Interest	Negative Ranks	7[a]	4.00	**28.00**	**a. Democratic< Interest**
	Positive Ranks	0[b]	.00	.00	b. Democratic> Interest
	Ties	11[c]			c. Democratic= Interest
Urgency - Interest	Negative Ranks	12[a]	7.83	**94.00**	**a. Urgency < Interest**
	Positive Ranks	2[b]	5.50	11.00	b. Urgency > Interest
	Ties	4[c]			c. Urgency = Interest
Influence - Area-based population	Negative Ranks	6[a]	5.00	**30.00**	**a. Influence < Area-based population**
	Positive Ranks	2[b]	3.00	6.00	b. Influence > Area-based population
	Ties	10[c]			c. Influence = Area-based population

Table 4. Attribute pairs signed-rank test and assumption of selected stakeholders by experts (continue)

Attribute pairs signed-rank test		N	Mean Rank	Sum of Ranks	Assumption
Power - Area-based population	Negative Ranks	10[a]	6.20	**62.00**	**a. Power < Area-based population**
	Positive Ranks	1[b]	4.00	4.00	b. Power > Area-based population
	Ties	7[c]			c. Power = Area-based population
Legitimacy - Area-based population	Negative Ranks	10[a]	6.25	**62.50**	**a. Legitimacy < Area-based population**
	Positive Ranks	1[b]	3.50	3.50	b. Legitimacy > Area-based population
	Ties	7[c]			c. Legitimacy = Area-based population
Democratic- Area-based population	Negative Ranks	12[a]	7.83	**94.00**	**a. Democratic< Area-based population**
	Positive Ranks	2[b]	5.50	11.00	b. Democratic> Area-based population
	Ties	4[c]			c. Democratic= Area-based population
Urgency - Area-based population	Negative Ranks	10[a]	5.50	**55.00**	**a. Urgency < Area-based population**
	Positive Ranks	0[b]	.00	.00	b. Urgency > Area-based population
	Ties	8[c]			c. Urgency = Area-based population
Power - Influence	Negative Ranks	6[a]	3.50	**21.00**	**a. Power < Influence**
	Positive Ranks	1[b]	7.00	7.00	b. Power > Influence
	Ties	11[c]			c. Power = Influence
Legitimacy - Influence	Negative Ranks	8[a]	5.19	**41.50**	**a. Legitimacy < Influence**
	Positive Ranks	3[b]	8.17	24.50	b. Legitimacy > Influence
	Ties	7[c]			c. Legitimacy = Influence
Democratic- Influence	Negative Ranks	9[a]	5.67	**51.00**	**a. Democratic < Influence**
	Positive Ranks	3[b]	9.00	27.00	b. Democratic > Influence
	Ties	6[c]			c. Democratic= Influence
Urgency - Influence	Negative Ranks	7[a]	4.64	**32.50**	**a. Urgency < Influence**
	Positive Ranks	2[b]	6.25	12.50	b. Urgency > Influence
	Ties	9[c]			c. Urgency = Influence
Legitimacy - Power	Negative Ranks	5[a]	4.80	**24.00**	**a. Legitimacy < Power**
	Positive Ranks	4[b]	5.25	21.00	b. Legitimacy > Power
	Ties	9[c]			c. Legitimacy = Power
Democratic- Power	Negative Ranks	7[a]	5.79	**40.50**	**a. Democratic< Power**
	Positive Ranks	5[b]	7.50	37.50	b. Democratic> Power
	Ties	6[c]			c. Democratic= Power
Urgency - Power	Negative Ranks	4[a]	3.88	**15.50**	**a. Urgency < Power**
	Positive Ranks	3[b]	4.17	12.50	b. Urgency > Power
	Ties	11[c]			c. Urgency = Power
Democratic- Legitimacy	Negative Ranks	5[a]	5.00	**25.00**	**a. Democratic< Legitimacy**
	Positive Ranks	4[b]	5.00	20.00	b. Democratic> Legitimacy
	Ties	9[c]			c. Democratic= Legitimacy
Urgency - Legitimacy	Negative Ranks	6[a]	5.58	**33.50**	**a. Urgency < Legitimacy**
	Positive Ranks	5[b]	6.50	32.50	b. Urgency > Legitimacy
	Ties	7[c]			c. Urgency = Legitimacy
Urgency - Democratic	Negative Ranks	7[a]	6.57	**46.00**	**a. Urgency < Democratic**
	Positive Ranks	6[b]	7.50	45.00	b. Urgency > Democratic
	Ties	5[c]			c. Urgency = Democratic

Table 5. Attribute pairs signed-rank test statistics of selected stakeholders

Attribute pairs signed-rank test	Selected stakeholder's attribute of participation			Attributes of participation used by planners/ planning agency to select stakeholders		
	Z	Asymp. Sig. (1-tailed)	Conclusion of Wilcoxon Signed-Ranks Test	Z	Asymp. Sig. (1-tailed)	Conclusion of Wilcoxon Signed-Ranks Test
Area. - Int.	-.718[c]	.236	Area. = Int.	-.277[c]	.500	Area. =Int.
Inf. - Int.	-.026[c]	.489	Inf. = Int.	-1.809[b]	.059	Inf. =Int.
Pow. - Int.	-5.106[b]	.000	Pow. < Int.	-2.581[b]	.006	Pow. < Int.
Leg - Int.	-3.364[b]	.000	Leg < Int.	-2.389[b]	.011	Leg. < Int.
Dem.- Int.	-2.580[b]	.005	Dem. < Int.	-2.388[b]	.008	Dem. < Int.
Urg. - Int.	-.429[b]	.334	Urg. = Int.	-2.721[b]	.003	Urg. < Int.
Inf. – Area.	-.662[b]	.254	Inf. = Area.	-1.725[b]	.066	Inf. =Area.
Pow. – Area.	-5.589[b]	.000	Pow. < Area.	-2.658[b]	.004	Pow. < Area.
Leg. – Area.	-4.171[b]	.000	Leg. < Area.	-2.697[b]	.003	Leg. < Area.
Dem.- Area.	-3.44[3b]	.000	Dem. < Area.	-2.721[b]	.003	Dem. < Area.
Urg. – Area.	-.183[b]	.427	Urg. – Area.	-2.911[b]	.001	Urg. < Area.
Pow. - Inf.	-5.667[b]	.000	Pow. < Inf.	-1.265[b]	.180	Pow. =Inf.
Leg. - Inf.	-3.770[b]	.000	Leg. < Inf.	-.771[b]	.220	Leg. = Inf.
Dem- Inf.	-3.279[b]	.000	Dem. < Inf.	-.974[b]	.181	Dem. = Inf.
Urg - Inf.	-.688[c]	.245	Urg. = Inf.	-1.224[b]	.123	Urg. = Inf.
Leg. – Pow.	-2.596[c]	.004	Leg. > Pow.	-.187[b]	.500	Leg. = Pow.
Dem.- Pow.	-3.575[c]	.000	Dem. > Pow.	-.124[b]	.498	Dem. = Pow.
Urg. – Pow.	-6.081[c]	.000	Urg. > Pow.	-.264[b]	.492	Urg. = Pow.
Dem.- Leg.	-1.173[c]	.120	Dem. = Leg.	-.333[b]	.500	Dem. = Leg.
Urg. – Leg.	-4.214[c]	.000	Urg. > Leg.	-.046[b]	.500	Urg. = Leg.
Urg. – Dem.	-3.445[c]	.000	Urg. > Dem.	-.037[b]	.500	Urg. = Dem.

Area.=Area-based population, Dem.=Democratic, Inf.=Influence, Int.=Interest, Leg.=Legitimacy, Pow.=Power, Urg.=Urgency, b=Based on positive ranks, c=Based on negative ranks, d=The sum of negative ranks equals the sum of positive ranks.

Table 6. Selected stakeholder's attributes of the participation matrix

	Attributes of the participation matrix (p<0.05)						
Attributes of participation	**Interest**	**Area-based population**	**Influence**	**Power**	**Legitimacy**	**Democratic**	**Urgency**
Interest	=	=	=	>	>	>	=
Area-based population	=	=	=	>	>	>	=
Influence	=	=	=	>	>	>	=
Power	=	=	=	=	<	<	<
Legitimacy	=	=	=	=	=	=	<
Democratic	=	=	=	=	=	=	<
Urgency	=	=	=	=	=	=	=

> represent "there was statistically significantly higher than"
< represent "there was statistically significantly lower than"
= represent "there was not statistically significantly different"

Based on Table 5 (Attributes of participation used by planners/planning agencies to select stakeholders), attributes of the participation matrix were identified and categorized by planners or the planning agency to select stakeholders. Interest and area-based population did not differ statistically significantly. Legitimacy, democratic principle, power and urgency were also not statistically significantly different from each other. This meant that they were in the same cluster. However, the influence was not statistically significantly different from the other characteristics of participation: Resident population (p=0.066), Interest (p=0.059), Power (p=0.180), Legitimacy (p=0.220), Democratic principle (p=0.181) and Urgency (p=0.123). When the asymp. Sig. (1-tailed) or (p-value) is closer to 0.05, it tends to be statistically significantly different. Based on the Asymp. Sig. (1-tailed), influence was categorized as legitimacy, democratic principle, power, and urgency.

Table 5 (Participation characteristics used by planners/planning agencies in selecting stakeholders) and Table 7 show that the "Interest" and "Area-based population" clusters were statistically significantly larger overall than the "Legitimacy", "Democratic Principle", "Power" and "Urgency" clusters. This suggests that the participation characteristics chosen by the planners or planning agency to select the stakeholders involved in the planning process were hierarchically divided into primary and secondary clusters. The first hierarchical participation characteristics included interest and area-based population. However, legitimacy, democratic principle, power, influence and urgency were classified as secondary hierarchical cluster.

Moreover, the selected stakeholders always have a choice of participation channels depending on their preferences and resources. These channels can be categorized as on-site participation, e-participation, and informal and indirect participation (table 8).

Table 8 shows that the paired signed-rank test of e-participation and on-place participation was statistically significant (p 0.05). Moreover, Z=-3.444 based on the positive ranks. Similarly, on-site participation had a greater impact than informal and indirect participation (p 0.05). Thus, a Wilcoxon Signed-Ranks Test showed that on-site participation had a greater influence than e-participation (Z=-3.444, p 0.05) and informal and indirect participation (z=-4.519, p 0.05). On the other hand, a Wilcoxon Signed-Ranks Test also showed that e-participation had a greater influence than informal and indirect participation (Z=-2.358, p 0.05). The signed-rank tests of the participation mechanism pairs were transformed into a matrix table to classify the influential hierarchy of participation mechanisms of the stakeholders involved.

Based on the matrix of participation mechanisms (Table 8), on-site participation had the most influence, followed by e-participation, while informal and indirect participation mechanisms were considered less influential on decision-making in the planning processes. On-site participation refers to all formal participatory planning events in a visible and tangible location, including focus group discussions and public hearings. It was found that the selected stakeholders felt that on-site participation allowed them to have more influence on the decision-making processes than e-participation. Also, the mechanism of e-participation enabled the participating stakeholders to have more influence than informal and indirect participation.

Figure 1 shows that the planning agency and planners used the primary attributes of participation (interest, influence, and area-based population) and the secondary attributes of participation (power, democratic principle, urgency, and legitimacy) to select stakeholders to participate in the planning process. However, the selected stakeholders also had their participation attributes to choose to

participate in the participatory planning processes. The participation attributes that the selected stakeholders used to decide to participate in the planning process were classified into primary, secondary and tertiary clusters. Nevertheless, the attribute of power was considered as the lowest participation attribute for the selected stakeholders to decide to participate in the planning process. Moreover, on-site participation allowed the selected stakeholders to have a greater influence on the decision-making processes than e-participation and the informal and indirect participation tool.

Table 7. Matric of attributes of participation used by planners/planning agency to select stakeholders

Attributes of the participation matrix (p<0.05)							
Attributes of participation	**Interest**	**Area-based population**	**Influence**	**Power**	**Legitimacy**	**Democratic**	**Urgency**
Interest	=	=	=	>	>	>	>
Area-based population	=	=	=	>	>	>	>
Influence	=	=	=	=	=	=	=
Power	=	=	=	=	=	=	=
Legitimacy	=	=	=	=	=	=	=
Democratic	=	=	=	=	=	=	=
Urgency	=	=	=	=	=	=	=

> represent "there was statistically significantly higher than"
= represent "there was not statistically significantly different"

Table 8. Participation gateways pairs signed-rank test statistics of selected stakeholders

Test Statistics[a]			
	e-participation - On-place participation	**Informal and indirect participation – On-place participation**	**Informal and indirect participation – e-participation**
Z	-3.444[b]	-4.519[b]	-2.358[b]
Asymp. Sig. (2-tailed)	.001	.000	.018

a. Wilcoxon Signed Ranks Test
b. Based on positive ranks.

Table 9. Participation mechanism pairs signed-rank test statistics of selected stakeholders

Participation mechanism matrix (p<0.05)			
	On-place- participation	**e-participation**	**Informal and indirect participation**
On-place-participation	=	>	>
e-participation	=	=	>
Informal and indirect participation	=	=	=

> represent "there was statistically significantly higher than"
= represent "there was not statistically significantly different"

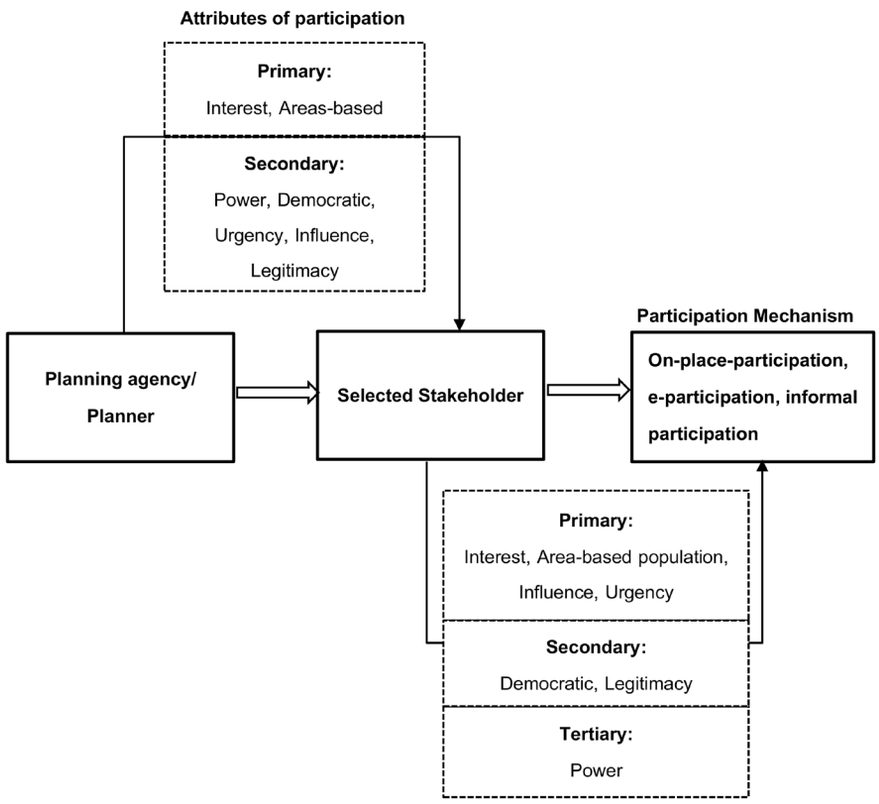

Figure 1. Hierarchical classification of the participation characteristics of the selected actors

5. Discussion and Conclusion

In the context of participatory urban planning under the smart city concept, the attributes of participation play an important role for the stakeholders and the planners. The attributes of participation can be classified by stakeholders and planners into primary, secondary and tertiary hierarchy. The planning office and planners used the primary and secondary attributes to select stakeholders for their planning process. In addition, interest and area-based population were the main attributes used by the planners in selecting stakeholders to participate in the participatory planning process. On the other hand, planners also used the second set of participatory attributes such as power, democratic principle, urgency, influence and legitimacy to attract other stakeholders to participate in the planning processes. However, the stakeholders selected by the planning agency and planners also used their participation characteristics to decide whether they wanted to participate in the participatory planning processes. The participation characteristics that the selected stakeholders used to decide whether they wanted to participate in the planning process were divided into primary, secondary and tertiary clusters. It was found that interest, area-wide population, influence and urgency were the highest priorities for the selected stakeholders in deciding whether to participate in the participatory planning process of Khon Kaen Smart City. However, the attribute of power was considered the lowest attribute of participation by the selected stakeholders who decided to participate in the planning process. It can be concluded that both the planners and the selected stakeholders considered interest and area-based population as key attributes for participation. Moreover, the selected stakeholders preferred on-site participation over e-participation and informal and indirect participation channels to influence the decision-making processes.

It is clear that the level of citizen participation is directly related to the effort invested by the planning agencies (Cornwall & Gaventa, 2000), as a number of stakeholders for the planning or project are mainly selected by the planning agencies (Dodds, 2002). However, this does not mean that all selected stakeholders participate in the planning process. The selected stakeholders may not participate in the planning process because the structure and process are not in line with the participants' objectives (Parker & Murray, 2012), interest and motivation are lacking or low, specific skills are present, and socio-economic, political and cultural characteristics are present (Tosun, 2005; Mohammadi, 2010; Swapan, 2016). Moreover, it is inevitable that the key people are not selected by the planning agency/ planners, but they also have their characteristics of participation and want to have the opportunity to contribute their ideas and expertise (Dodds, 2002). They become the stake-seekers who also have a right to participate in the effort (Holzer, 2007). These stakeholders must adhere to participatory decision making or deal with conflicts among a variety of stakeholders. The unselected stakeholders and interest groups should have been studied for a deeper understanding of participatory urban planning. The findings of this study suggest that planning authority, provision of participation channels and stakeholder characteristics in relation to participation as key components in answering the unresolved question "If participation is so rewarding and effective, why does not everyone participate?". Therefore, planning authorities/planners need to form a more functional partnership by using an appropriate level of participatory planning processes and a range of participation channels to increase citizen participation in the decision-making process.

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References

Alraout, A. A. (2006). Knowledge cities: Examining the discourse smart villages, internet cities or creativity engines. *Planning Malaysia Journal, 4*(1), 31-48.

Bass, B. M. (1960). *Leadership, psychology, and organizational behavio*r. Harper.

Bishop, P., & Davis, G. (2002). Mapping public participation in policy choices. *Australian Journal of Public Administration, 61*(1), 14-29.

Cambridge University Press and Assessment. (1995). *interest. In Cambridge Dictionary*. Cambridge University Press. https://dictionary.cambridge.org/dictionary/english/interest

Cornwall, A., & Gaventa, J. (2000). From users and choosers to makers and shapers repositioning participation in social policy1. *IDS Bulletin, 31*(4), 50-62.

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4thed.). Sage publications.

Davies, S. R., Selin, C., Gano, G., & Pereira, A. G. (2012). Citizen engagement and urban change: Three case studies of material deliberation. *Cities, 29*(6), 351-357.

Dodds, F. (2002). The context: Multi-stakeholder processes and global governance. In M. Hemmati (Ed.), *Multi-stakeholder processes for governance and sustainability*: Beyond deadlock and conflict (pp. 26-38). Earthscan.

Espinosa-Orias, N., & Sharratt, P. N. (2006). A hierarchical approach to stakeholder engagement. In J. Duflou & W. Dewulf (Eds.), *Proceedings of the 13th CIRP International Conference on Life Cycle Engineering: Held at the Katholieke Universiteit Leuven, Belguim, Mai 31st - June 2nd 2006* (pp. 525-529). Katholieke Universiteit Leuven.

Fung, A. (2006). Varieties of participation in complex governance. Public Administration Review, 66(1), 66-75. Gaventa, J., & Barrett, G. (2012). Mapping the outcomes of citizen engagement. *World Development, 40*(12), 2399-2410.

Giffinger, R., & Gudrun, H. (2010). Smart cities ranking: An effective instrument for the positioning of the cities?. *ACE: Architecture, City and Environment, 4*(12), 7-26.

Kelly, J, Grosvenor, T. & Jones, P. (2004). *Successful transportation decision-making: A project management and stakeholder engagement handbook. CIVITAS*. Retrieved from http://civitas.eu/sites/default/files/guidemapshandbook_web.pdf

Holzer, B. (2007). Turning stake seekers into stakeholders: A political coalition perspective on the politics of stakeholder influence. *Business Society, 47*(1), 50-67.

Kim, S., & Lee, J. (2012). E-participation, transparency, and trust in local government. *Public Administration Review, 72*(6), 819-828.

Kline, R. B. (1998). *Principles and practice of structural equation modelling*. Guilford.

McDonald, J. H. (2014). *Handbook of biological statistics* (3rd ed.). Sparky House.

Mohammadi, S. N. (2010). *People's participation in development projects at grass-root level: A case study of Alampur and Jagannathpur Union Parishad Master* [Master's thesis, North South University].

Mortensen, J., Rohde, F. J., Kristiansen, K. R., Kanstrup-Clausen, M., & Lubanski, M. (2012). *Danish smart cities: Sustainable living in an urban world an overview of Danish Smart City Competencies.* Copenhagen Cleantech Cluster.

Murray, A., Minevich, M., & Abdoullaev, A. (2011). Being smart about smart cities. *Searcher, 19*(8), 20.

Organisation for Economic Co-operation and Development (OECD). (2003, August 8). *Checklist for E-Government Leaders*. Google Scholar. https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Checklist+for+E-Government+Leaders&btnG=

Ondee, P., & Pannarunothai, S. (2008). Stakeholder analysis: Who are the key actors in establishing and developing Thai independent consumer organizations?. *International Journal of Human and Social Sciences, 3*(4), 265-275.

Parker, G., & Murray, C. (2011). Beyond tokenism? community-led planning and rational choices: Findings from participants in local agenda-setting at the neighbourhood scale in England. *Town Planning Review, 83*(1), 1-28.

Pateman, C. (2012). Participatory democracy revisited. *Perspectives on politics, 10*(1), 7-19.

Peiró, J. M., & Meliá, J. L. (2003). Formal and informal interpersonal power in organisations: Testing a bifactorial model of power in role-sets. *Applied Psychology, 52*(1), 14-35.

Sopchokchai, O. (2001). *Good local governance and anti-corruption through people's participation: A case of Thailand.* CiteSeerX. https://citeseerx.ist.psu.edu/pdf/e407f853f7bf22c49bbbf02b513d7daaeed4af14

Steinert, K., Marom, R., & Richard, P. H., Veiga, G., & Witters, L. (2011). Making cities smart and sustainable. *The Global Innovation Index, 14*, 87-95.

Sudhipongpracha, T., & Wongpredee, A. (2016). Decentralizing decentralized governance: Community empowerment and coproduction of municipal public works in Northeast Thailand. *Community Development Journal, 51*(2), 302-319.

Swapan, M. S. H. (2016). Who participates and who doesn't? adapting community participation model for developing countries. *Cities, 53*, 70-77.

Tahir, Z., & Malek, J. A. (2016). Main criteria in the development of smart cities determined using analytical method. *Planning Malaysia Journal, 14(*5), 1-14.

Tandon, R. (2008). Participation, citizenship and democracy: Reflections on 25 years' of PRIA. *Community Development Journal, 43*(3), 284-296.

Tosun, C. (2005). Stages in the emergence of a participatory tourism development approach in the developing world. *Geoforum, 36*(3), 333-352.

Touch, S., & Rawee, H. (2018). The role of urban planners in relation to stakeholder involvement in planning process. *Built Environment Inquiry, 17*(2), 69-91.

Wandersman, A., & Giamartino, G. A. (1980). Community and individual difference characteristics as influences on initial participation. *American journal of community psychology, 8*(2), 217–228.

Webler, T., & Tuler, S. (2006). Four perspectives on public participation process in environmental assessment and decision making: Combined results from 10 case studies. *Policy Studies Journal, 34*(4), 699-722.

World Health Organization (WHO). (2005). Module 4 policy development process. *In Health service planning and policy making: A toolkit for nurses and midwives* (pp. 1-43). World Health Organization, Western Pacific Region. https://apps.who.int/iris/handle/10665/207061

Yee, S. (2010). *Stakeholder engagement and public participation in environmental flows and river health assessment.* Australia-China Environment Development Partnership.