



Participatory Decision-Making in the Fourth Industrial Revolution: Challenges and Trade-offs for Local Governments at Commune Level in Viet Nam

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Abstract

The Fourth Industrial Revolution has brought both opportunities and challenges for promoting public participation in the sub-national decision-making. The paper aims to describe the participatory decision-making of the commune government, the lowest government level in Viet Nam, and analyse the influencing factors, the challenges for the commune participatory decision-making, and the trade-offs the commune leaders have to make while ensuring inclusiveness. Based on the survey findings, document analysis, observations, and case examples the paper shows that the commune governments have to involve local people from the early stage of the decision-making at the highest participation level, using new technologies to promote public participation. The main findings reveal the commune governments introduce the four-C approach to engage people in local decision-making, that is, Communication, Consultation, Collaboration, Co-production.

Keywords

Participatory Decision-Making; Commune Government; Fourth Industrial Revolution; Challenges, Trade-offs; Viet Nam

Introduction

Participation is seen as one of the main pillars of good governance. Public participation is varied in terms of scope, content, form, approach, and tools. Along with the increasing democratisation in society, people are getting more engaged in both national and sub-national governance in developing countries. Participation in the decision-making of the sub-national governments especially, as the one closest to the people, facilitates the legitimacy and soundness of the decisions, promotes democracy and empowerment. In addition, through participation, people shift from their role a passive actors to active, key actors and work with the sub-national government to decide the issues for the sake of the common good as well as their legitimate rights and interests. The paradigm of the interaction between the government and people has changed.

Many reform initiatives in developing countries in the recent decades have focused on participatory decision-making of the local government as a sub-national government, aiming at mobilising resources and wisdom to gain efficiency, effectiveness, and transparency of governance. Participatory decision-making at the lowest level of local government is more challenging in the context of the Fourth Industrial Revolution (4IR), which is characterised by advanced technology application and fundamental transformation of the current systems. The 4IR is starting to impact local governments in the ways they respond to unprecedented events, provide public services, make decisions, interact with citizens, and engage stakeholders, especially local residents, in solving local problems and challenges. Given the limited budget allocation and scarce local resources, the lowest-level government finds it difficult to be adaptive to the new changes brought about by 4IR while ensuring inclusiveness in public service delivery and local decision-making. It is especially more challenging for the rural governments when there is uneven access of the local residents to the internet.

The study aims to examine the participatory decision-making of the commune government in Viet Nam¹ in the 4IR context. Specifically, the paper tries to answer the following research questions: (1) how the commune governments in Viet Nam involve local residents in making the decisions affecting their lives while ensuring

¹ Commune government is defined by Vietnamese law as a local government in the rural areas. which account for 65.57% of the country's population according to the 2019 population and housing census. It is the lowest level of government in Viet Nam.

inclusiveness and keeping adaptive to the changes brought by 4IR; (2) what are the factors influencing public participation in the commune decision-making process; (3) what are the challenges in applying new technologies in promoting public participation in the commune decision-making.

The paper is structured with three main parts. The literature review and theoretical background provide focal constructs of the study, which are local governance and local participatory-decision-making. The methodology section is followed by the findings. Based on the findings, the article presents a discussion, focusing on the reasoning of the findings, the challenges for local governments to promote participatory decision-making, and the trade-offs to ensure inclusiveness in the context of 4IR.

Context of Public Participation at Grassroots Level in Viet Nam

The Vietnamese Law on Promulgation of Legal Normative Documents clearly stipulates public participation in making legal documents. Accordingly, the people participate in all stages of the decision-making process, specifically: giving opinions on the proposal to develop legal normative documents, problem identification and goal setting, consultation (commenting) on the draft legal normative document in the stages of alternative development and selection and being informed of the approved legal normative documents, which are publicly posted and reported on mass media in the commune.

The Ordinance on the Implementation of Democracy in Communes, Wards and Townships regulates the participation of the local community in the matters falling under the decision-making authority of these grassroots governments, which are commune-level socio-economic development, community land use, commune-level revenue generation and spending on the commune-level for construction works financed by the community, and commune-level investment.

The commune governments (including the People's Council as an elected body and the People's Committee as an executive body), commune socio-political organisations, self-governing organisations in villages and communes are required by the law to collaborate to promote grassroots democracy, including public participation in commune decision-making processes.

Theoretical background

Local governance is defined as the formulation and implementation of collective action based on the interaction between local government and local people, among local people, and on participatory decision-making (Shah & Shah, 2006). The interaction is conducted in various forms and channels through different means. Through the continuous interaction between the local government and people, community problems are identified, possible solutions are developed, and shared decisions are reached (Wilson, 2000).

Decision-making is commonly depicted as a process with different phases. Based on Simon's well-known "intelligence-design-choice trichotomy" (Simon, 1965, cited in Mintzberg, Raisinghani, and Theoret, 1976, p.252), Mintzberg, Raisinghani, and Theoret (1976, p.252) developed a framework for decision-making with three phases of identification, development, and selection. Paterson (cited in Mintzberg, 1979, p. 188) described the decision process as a continuum of steps including information, advice, choice, authorisation, and execution. According to Kuwashima (2014), in the modern organisation theory model, decision-making goes through a process which starts with finding all available alternative plans, then predicts consequences of choosing these alternatives, and finally, chooses an alternative based on preference. Decision-making could be defined as a linear process with stages of problem identification, objective setting, alternative development, alternative selection, and decision issuance.

Creighton (2005, p. 7) defined public participation as the process by which public concerns, needs, and values are incorporated into governmental decision-making. Public participation takes place in forums for exchange to facilitate interaction between government, citizens, stakeholders and interest groups, and businesses regarding a specific decision or problem (Renn, Webler & Wiedemann, 1995). Participatory decision-making is understood as a social process with different stages in which the interests, needs, and values of the local residents and other stakeholders are incorporated in the decisions made by a local government. It is noted that not all decision-making is participatory; rather, making the decisions to solve the problems/challenges related to the public interest, not under the time pressure, must be participatory (Irvin & Standsbury, 2004). Through participatory decision-

making, the local government shares decision-making power with the local residents and other stakeholders. Public participation in the decision-making is an effort for a meaningful democracy (Peters, 2001), meeting the demand for information of the local government to make well-informed, evidence-based decisions (Lowndes, Pratchett, & Stoker, 2001). Inclusiveness must be ensured during the participatory decision-making to avoid dominance of influencing people in the locality which may result in autocratic, undemocratic decisions (Franklin & Ebdon, 2007). According to Renn et al. (1993, p.190) the model of participatory decision-making entails three consecutive steps, which are: identification and selection of concerns and evaluative criteria; identification and measurement of impacts of the different decision options; and aggregation and weighting of expected impacts by randomly selected citizens and elicitation of citizens' preference.

Arnstein (1969, p. 239) developed a ladder of citizen participation, which consists of eight rungs, namely: non-participation (manipulation, therapy), tokenism (informing, consultation, placation), citizen power (partnership, delegated power, citizen control). The framework of public participation is depicted by the International Association for Public Participation (IAP2) Australia (2015, p.11) as a spectrum starting from inform, consult, collaborate, empower. Public participation is different in different stages, ranging from information as the lowest level of the participation ladder, to consultation, collaboration, and self-determination as the highest participation (see Figure 1).

At the information level, the lowest rung of participation, people are informed by the local government based on "passive access" to information upon demand and "active measures" of information dissemination by government (OECD, 2016). According to the Public Participation Spectrum of IAP2 (2015, p. 11), people are informed with balanced and objective information to understand the problem, alternatives, and solutions. Access to information is the first condition for participation (Tesha, Mokaya, & Bakari, 2016).

Consultation is the interaction between the local government, local residents, and other stakeholders in which inputs are provided for the local government. Consultation should be accompanied with communication, deliberation, and sharing (Kasymova, 2014). According to Arnstein (1969) consultation means inviting people's opinions, which is a legitimate step toward their full participation and the most frequent methods to consult people are attitude surveys, neighborhood meetings, and public hearings.

By moving to the collaboration rung of the participation ladder the local residents and other stakeholders shift their role from passive actors to active, key actors and work with the local government for the final choice. Collaboration is reached when the government partners with the people in each aspect of the decision, including the development of alternatives and the identification of the preferred solutions (IAP2, 2015, p. 11).

The highest level of public participation is self-determination of choices (of the problems to be dealt with, objectives to be met, the alternatives to be considered, and the solution to be taken to deal with the problem) which the local government has to implement. Reaching this level of participation, local residents have power over the decision-making. People achieve dominant decision-making authority over a particular plan or program (Arnstein, 1959) and the final decision-making is placed in the hands of the people (IAP2, 2015, p. 11).

Level of participation	↑	Self-determination	Self-determination	Self-determination	Self-determination	
		Collaboration	Collaboration	Collaboration	Collaboration	
		Consultation	Consultation	Consultation	Consultation	
		Information	Information	Information	Information	
		Defining the problem	Defining objectives	Developing alternatives	Selecting the alternative	Issuring the decision
		→	→	→	→	→

Figure 1- Participatory decision- making of the commune government
 Source: Author (based on the theories of decision-making and public participation)

The difference in participation level depends on various factors, including the institutionalisation of participation (legal regulations on what, when, and how to decide with public participation), capacity and resources of the local government, characteristics (educational attainment, income, culture, and other socio-

economic factors) and capacity of the local residents and other stakeholders, relations between the local government and local residents, and time for making a decision. The CLEAR model identifies five factors influencing public participation, emphasising what people ‘can do’, ‘like to do’, are ‘enabled to’ do, are ‘asked to’ do, and are ‘responded to’ for effective participation (Lowndes & Pratchett, 2006).

The development of information and communication technology (ICT) in recent decades has changed the way government operates, delivers services, and interacts with people. The concept of E-government emerged (McClure, 2001). E-government offers more participation opportunities for people through increased forms of participation (face-to-face and electronic participation). People began to participate electronically in public affairs. E-participation is, in a nutshell, public participation in the process of social management in the electronic environment, whereby people use ICT to access information, contribute ideas to public agencies, and provide information (feedback, recommendations, proposals, and plans) for public agencies to make decisions. People's E-participation is conducted at the following levels: e-information; e-consultation; and e-decision making (United Nations, 2004).

Research design and methodology

The paper aims to review commune participatory decision-making in Viet Nam in the 4IR context, and analyse the influencing factors and the challenges for participatory commune decision-making.

Based on the survey, observations, and secondary data, the paper attempts to answer the following questions:

1. How do the lowest-level governments involve people in the commune decision-making in the 4IR context?
2. What are key factors influencing public participation in commune decision-making in the 4IR context?
3. What are the challenges facing the commune governments in commune participatory decision-making in the 4IR context?

Hypotheses

The theories of decision-making, local governance, public participation, and the 4IR set the conceptual framework for the research on the participatory decision-making of commune governments in Viet Nam in the context of 4IR.

The hypotheses are:

1. The commune governments use the four-C approach to promote participatory decision-making;
2. Institutionalisation of participation and membership of local organisations are contributing factors;
3. Limited capacity of commune officials and lower educational attainment, lower income, and limited digital awareness of local residents restrain meaningful public participation in local decision-making in the context of 4IR;
4. A lack of IT labour and limited participation awareness including digital awareness are the key challenges to applying new technologies in promoting public participation in commune decision-making.

Methodology

The survey was conducted for the two years of 2018 and 2019 in Nam Dinh province,² Viet Nam. It focused on the experience of participation of local residents in making decisions at commune level, which requires public participation by law. The commune governments' efforts to promote public participation were also examined to provide a comparative perspective. Two separate questionnaires³ were designed for the two categories of respondents, who were local residents and commune officials. In addition, commune officials were invited to unstructured interviews to give more explanation and reasons for their responses. The interview inputs were reported and interpreted into a matrix of levels of participation and stages of decision-making to measure the frequency of the reasons of responses and to record extra statements and explanations.

² Nam Dinh province is located 90 km away from the capital of the country in an area of 1,668 km². It is a typical province in the northern delta region in Viet Nam.

³ See Appendix 2 for the questions used in the survey and unstructured interviews.

The survey sample consisted of 429 respondents⁴ including 347 local residents and 82 commune leaders from Nam Dinh province (given the province's population of 1,790,393,⁵ a confidence level of 95%, and a margin of error of 5%, the sample size of 429 was acceptable). Among 188 communes of the province, 53 communes were selected representing different economic areas (communes under new rural development districts and communes under non-rural development districts) and geographical areas (coastal communes and land-locked communes; communes located next to the city and communes surrounded by rural areas; communes under the city and communes under districts). Commune leaders of 53 communes who totaled 82 completed the questionnaire and answered the extra questions in the unstructured interview; 347 local residents from the 6 communes randomly selected out of 53 communes were involved in the survey.

The descriptive statistics are used in the research. In addition to the primary data, the sources of secondary information are referred in comparison with the survey findings. The paper also uses observations to clarify the statements resulting from the survey findings.

Results

Communication for participation in the commune decision-making

Viet Nam is making efforts to promote direct democracy at the grassroots level and the commune governments, in collaboration with commune socio-political organisations, have to promote democratic practice and public participation. The commune governments apply a communication approach for community outreach for participation in the decision-making (see Box 1 for a case of using a comprehensive communication strategy).

In order to keep local people well-informed and promote two-way interaction between the local government and people, in 2020 Nam Dinh province, Viet Nam introduced Smart Nam Dinh, Smart commune based on two mobile platforms of Android and IOS. This application allows people to provide feedback for government business and send their observations through snapshots. People with a disability could use the application through the special tools, which ensures inclusiveness. A communications strategy including dissemination of leaflets on Smart Nam Dinh and hands-on instruction has been implemented to introduce the benefits of the application, and support people, especially older people, to be familiar with it.

Accordingly, the local radio broadcasts, television, and newspapers cover news and events concerning the application of Smart Nam Dinh on mobile phones. In addition, 60,000 leaflets and manuals have been distributed to local residents. Communication task forces visit households to introduce, explain, and instruct how to use the mobile application, with special support for the older generation. There are tools on the application for people with hearing and visual disabilities to improve their accessibility and provide them certain support.

Box 1 - A case of using a comprehensive communication strategy to promote Smart City application among the people

Source: Department of Information and Communication (2020).

Level of participation in commune decision-making

As regulated by law, villagers have the right to participate in making local decisions on commune socio-economic development, community land use, generating commune revenues and spending on the commune construction works financed by the community, and commune investment. The survey revealed that people participated in the early stage of the decision-making process of the commune government in Nam Dinh province and reached the highest rung of the participation ladder (see Figure 2). However, not many people enjoyed the highest level of participation of self-determination. The higher level of participation was, the fewer people were involved and the fewer efforts the commune governments made to involve people. There remained a large divide between the efforts of the commune leaders in promoting public participation and the people's experience of participation.

⁴ See Table 1-1 and Table 1-2 in Appendix 1 for the characteristics of the respondents.

⁵ In April 2019, Nam Dinh province had a population of 1,790,393 people; 81.82% of the province's population live in 188 communes (General Statistics Office, 2020).

The commune governments strove to provide information but a part of local residents could not access this information.

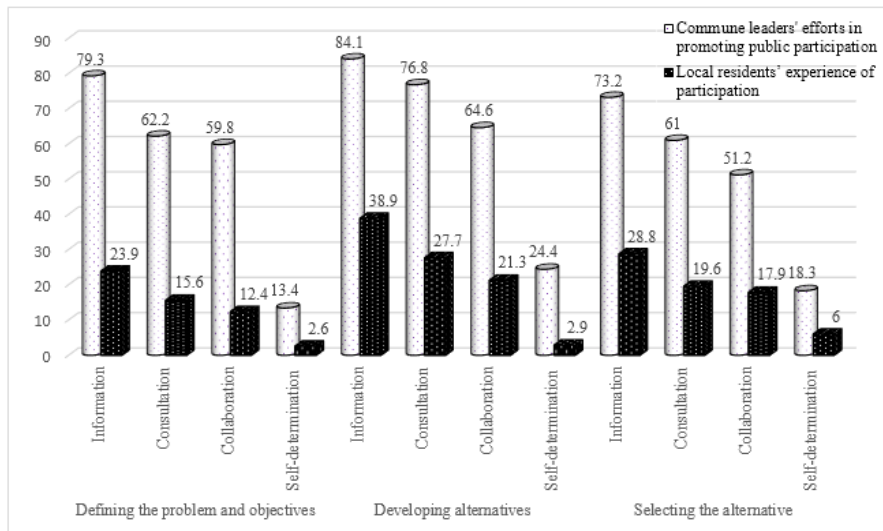


Figure 2. Level of participation of the local residents in the commune decision-making in Nam Dinh province, Viet Nam

Source: Author

Many commune leaders stated in the interviews that it took a lot of time to engage people in decision-making processes and to get their consensus on the problems to be solved and the objective to be met given the limited resources. It was easier for them to engage people in developing and selecting alternatives although capacity and skills are required in some areas and not all local people are capable of doing that. The most frequent reasons for not collaborating with people in the commune decision-making as explained by the local officials in the interviews were: it is government’s business (45.1%), people are not capable (43.9%), people do not care (17.1%), and participation takes time (6.1%). Those commune officials who did not support self-determination of the people in the decision-making referred to two main reasons: that it is government’s business (58.5%) and people are not capable (45.1%).

Perceptions of the commune leaders and local residents concerning the top reasons for not participating are depicted in Figure 3. No interest in participation restrains people from participating (35.4% of the surveyed local residents; 30.5% of the surveyed commune leaders). Another top reason is the perception (34.6% of the surveyed residents) that this is government business. No knowledge to participate is perceived by both commune leaders (25.6%) and local residents (25.9%) as the second most common reasons for no public participation.

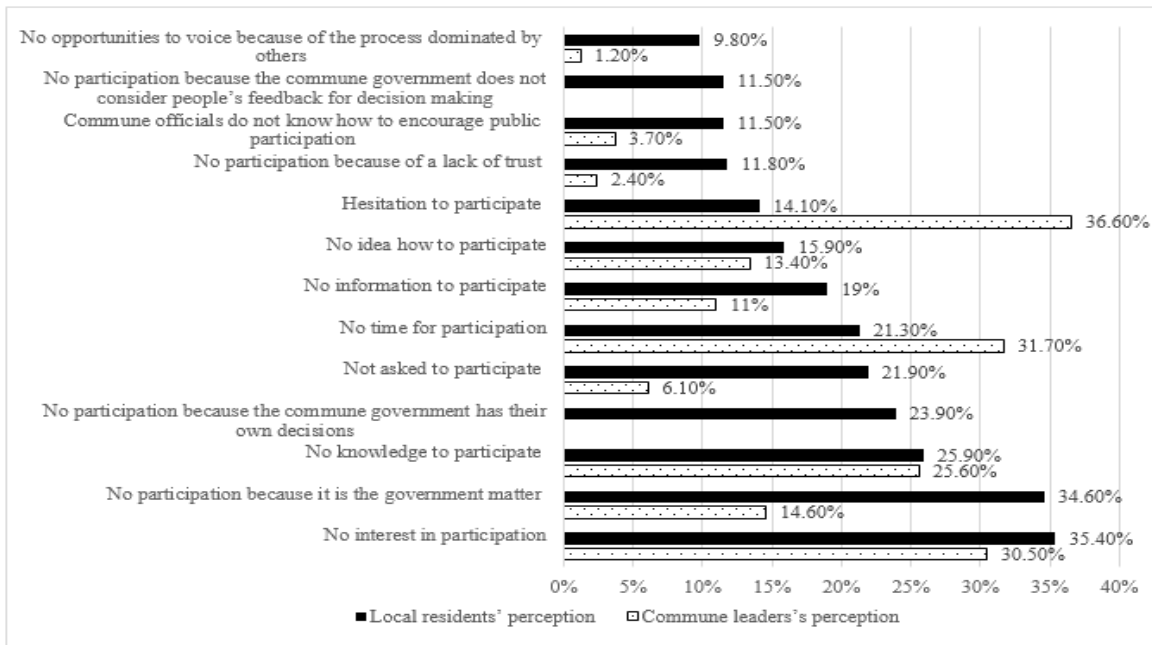


Figure 3: Commune leaders and residents' perception of the reasons of no participation in the commune decision-making

Source: Author

With the perception (34.6% of the surveyed residents) that commune decision-making is the government business, local residents are not interested in participation (35.4%), or do not spend time for participation (21.3%). Without knowledge (25.9%), without information (19%), or without skills (15.9%) local residents feel hesitant (14.1%) to participate in the commune decision-making. Assuming that the commune government has already made their own decision, local residents do not trust the process and do not participate. A small percentage of the surveyed respondents who supported the statement of no public participation due to dominance of others in the meetings has shown that people can voice if they like to do so, which partly ensures inclusiveness in the participatory decision-making.

Channels for participation

Commune governments use different channels to inform and consult people. The three most common information transmission channels used by the commune governments are meetings (98.8% of the surveyed commune leaders; 48.1% of the surveyed local residents), commune radio broadcasting (97.6% and 52.4% respectively), and through village leaders (95.1% and 33.1% respectively). Commune radio broadcasting is the most popular channel (52.4%) for local residents to access to information because it is the fastest and most convenient way for the people living in villages scattered over a large area, who are unfamiliar with information or digital technology. The commune governments have implemented various forms of information transmission including traditional and digital means (see Box 2 for the case of using smart radio broadcasting).

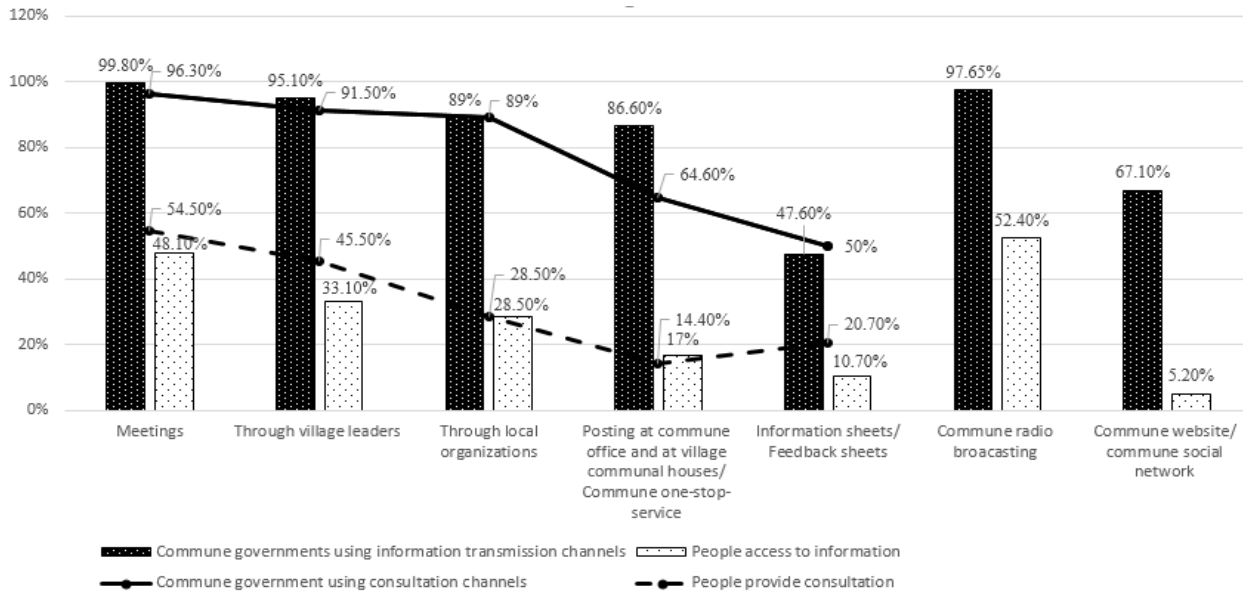


Figure 4. Channels for public participation
Source: Author

Recognising the great impact of the commune radio broadcasting on information transmission, in 2020, the commune governments in Nam Dinh province, Viet Nam installed a smart radio broadcasting system to replace the old one, which was based on wired technology and used FM channels. The smart radio broadcasting system applies the cloud computing technology, using smart devices. Production is digitalised with automation of broadcasting. The artificial intelligence-based text-to-speech technology is used to replace human labor to broadcast more information to local residents. It also facilitates customisation through granting permission of broadcasting to individual villages, which can broadcast the information based on the demand of their villagers.

Box 2 - Case of using smart radio broadcasting for customisation to information needs

E-participation in the surveyed communes was really limited. There was a small percentage (5.2%) of the surveyed local residents accessing the commune websites for information although the majority (67.1%) of the surveyed commune governments used websites to transmit information and nearly half of the surveyed residents (42.4%) frequently used internet-connected devices (see Table 1). At the time of the survey in 2019, the proportion of mobile broadband subscriptions was 86.48% and the proportion of households accessing the internet was 68.5% in Nam Dinh province (Ministry of Information and Communication, 2019). The websites of all the surveyed communes provided one-way communication, providing information and tools for people sending their opinions but not responses of the commune governments. There were not tools for online consultation, deliberation nor for social networking. Rather, these commune websites provided links to other portals of superior governments in which people could find tools for e-participation. There was a tendency of using a supply-based approach in

information provision on these websites, which mostly post information about the government's concerns that may not necessarily be of interest of the local residents. Information related to the commune decision-making, development of alternatives, and selections of alternatives were not really focused on.

Factors influencing the commune participatory decision-making

The unstructured interviews with commune leaders revealed that *institutionalisation* is critical for participatory decision-making at commune level. Public participation in commune decision-making is promoted if it is clearly stated in regulations. Which decisions have to be participatory and what level of participation (access to information, consultation, collaboration, self-determination) has to be promoted must be written down. The absence of specific regulations on commune participatory decision-making may result in no participation, participation as a formality, or ineffective participation.

An active role of the local stakeholders including village chiefs/heads, local organisations, specifically community organisations and commune sociopolitical organisations positively influences public participation in commune decision-making. In the rural areas in Viet Nam, which are characterized by community culture, village chiefs/heads play a dual role of a representative of the community and a bridge between the community and the government. That is why a part of the surveyed people access information (33.1%) and provide consultation and feedback (45.5%) to the commune government through village chiefs/heads. The survey revealed that *membership* in community organisations and commune sociopolitical organisations influences participation in the commune decision-making. The participation rate of these local stakeholders is higher than the average rate of the whole sample at any participation level (see Figure 5). The majority of the surveyed village chiefs/heads (80.8%) provide consultation to the commune governments in the commune decision-making, which is consistent with the survey result that nearly half of the respondents (45.5%) give their opinions through the village chiefs/heads. At the participation level of collaboration, members of local organisations are more active. The cooperation and coordination skills used in performing membership roles in the local organisations may make them more familiar with collaboration with the commune officials in the commune decision-making process. Members of the community organisations (30.4%) participate at the level of self-determination in the commune decision-making more than others. Rural communities in the northern delta regions in Viet Nam are characterised by community cohesion and self-governance. Community institutions such as village chiefs/heads and the membership of local organisations facilitate public participation at the highest level of self-determination in the commune decision-making. Social media are used as popular communication means among members to inform, consult, and collaborate in dealing with local issues.

A finding from the survey statistics showed that the higher *educational attainment* the local residents have, the more involved they are in consultation and collaboration in the commune decision-making process (see Figure 6). According to the survey results, not publicly participating in the commune decision-making process is partly due to limited capability. Without knowledge and skills for participation, local residents can't contribute ideas, give opinions, collaborate with the commune government, or determine the choice. Limited awareness (not interested in participation, not spending time for participation, no participation because it is the government's business) and limited digital awareness affect the public participation in the decision-making. While 56.2% of the surveyed local residents access the internet (see Table 1), only 5.2% of them access the commune government websites (see Figure 4). Limited competencies, especially for those matters related to professional expertise, skills and experience discourage the surveyed residents from becoming involved in the higher participation level of collaboration and self-determination. In addition, to be able to determine choices, local people have to make the most of collective wisdom and teamwork, which are absent among many local communities. No knowledge of the matter of concern could result in people's hesitation and lack of confidence to participate.

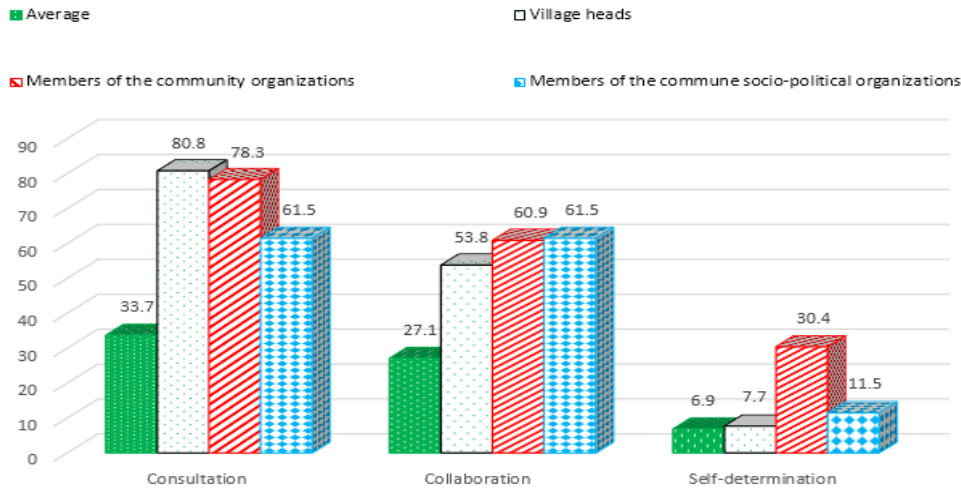


Figure 5. Participation of village chiefs/heads and members of local organisations in the commune decision-making
Source: Author

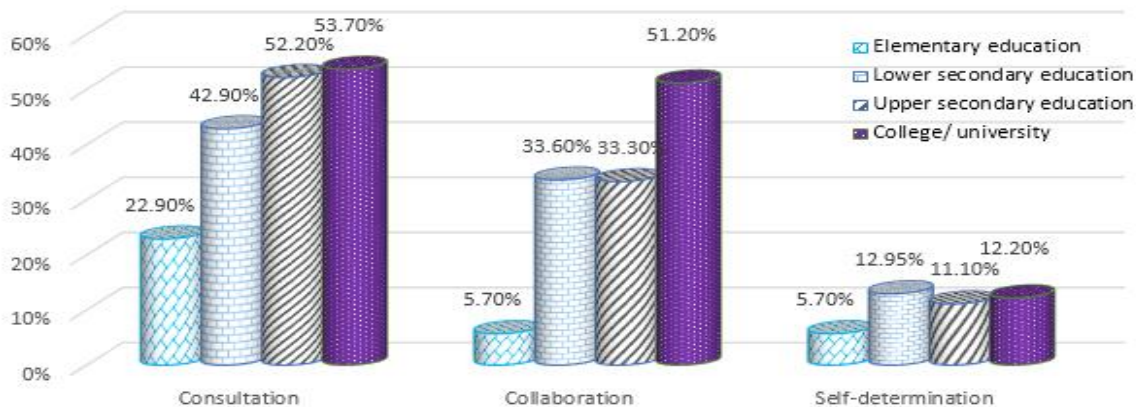


Figure 6. Educational attainment and participation of the surveyed local residents in the commune decision-making
Source: Author

The survey revealed surveyed poor households do not participate in the commune decision-making while the households with middle and high income actively participate at the consultation, collaboration, and self-determination level (see Table 2).

Commune leaders' *perception* of the participatory decision-making affects the level of public participation in the commune decision-making (see Table 2). According to the survey results, those commune leaders applying the participatory decision-making approach involve more local residents in all stages of the decision-making process. They consult and collaborate with people more often, are more willing to incorporate people's ideas in the decision-making and provide more opportunities for people to determine the choices than the commune leaders not applying the participatory decision-making approach.

The information transmission and consultation divide reveals that the commune governments have not used information and consultation methods and techniques effectively to ensure more people access information. Therefore, it is understandable when limited access to information limits the participation at the higher level of consultation, collaboration, and self-determination. One of the reasons for non-participation according to the survey is commune officials do not have skills to promote public participation (see Figure 3). Effective

collaboration requires certain skills and knowledge that not every commune leader and local resident has, which may impede the commune leaders from engaging with people and discourage local residents from participation.

Information technology and digital *capability* of the commune government affects the online information dissemination and other forms of e-participation such as consultation, sharing ideas and comments, feedback and response, and forums. The unstructured interviews with commune leaders revealed that personnel management is not decentralised at the commune level and they did not have information technology personnel who are capable of mastering technology to produce interactive, rich-content websites to attract visitors, especially to engage local residents in online interactions and promote e-participation.

Discussion

The research examined how the commune governments, the lowest-level government in Viet Nam, promoted participatory decision-making. The Four-C approach based on communication, consultation, collaboration, and co-production has been adopted by commune governments to engage people in the commune participatory decision-making while ensuring inclusiveness in the context of the 4IR. Communication is far beyond the citizens' passive access to information and information dissemination by government. Rather, it helps building public awareness of rights and responsibilities of citizenship, especially in local governance and local decision-making which is the first and foremost for local residents to be adaptive to the new technologies of 4IR (Bhuiyan, Ali, Zulkifli & Kumarasamy, 2020) in engaging in the commune decision-making. Furthermore, frequent two-way communication between the government and people also promotes public engagement in the decision-making (Hosseini et al., 2014). Through communication, local government understands better the local people's needs and preferences and vice versa, while local people gain more knowledge and skills of public participation, which brings about behaviour changes in commune decision-making. Public participation is only meaningful when people are well-informed and have participation skills. Constant changes and increasingly emerging problems require the local governments to promote consultation and collaboration with people in making decisions on local problems that could be dealt with using local wisdom and resources. The governments cannot be the single actor to produce sound decisions. Determination of choice has shifted the local residents' role from passive acceptance to co-production of the decision, solutions, and change. Local residents exercise their ownership in the decision-making. The Four-C approach could be a model of the participatory decision-making at grassroots level of government in developing countries.

Institutionalisation of public participation and *membership* of local organisations are contributing factors for the participatory commune decision-making. Institutionalised participation that is communicated with people at the outset of the process ensures difference (Martin, 2009). Institutionalisation is a precondition for participation, which should be specified in terms of content, areas, and forms of participation. Provisions define participatory local decision-making, which means which and how local decisions have to be participatory. The right to access information should be ensured for well-informed participation. A mechanism for promoting participatory decision-making should be also set up to ensure equal and inclusive participation.

Membership of local organisations serves as a driver for participation. Local organisations actively support people to participate in the decision-making; without them, it is less likely for the poor and the people with lower educational attainment to be involved in the decision process (Harrigan & Nice, 2013). As a member of a local organisation, a silent citizen could be inspired and encouraged by other members to voice and engage in the decision-making.

When possessing *limited capability*, limited access to information, being without professional knowledge and skills, or considering that this is the work of the government, local residents are not capable of determining the choice so that the local government issues decisions based on their choice.

The local governments are facing numerous *challenges* in making the decision-making participatory and inclusive in the context of 4IR. Adaptation to the new technologies, however, is not easy for everyone, especially for older generations, people with limited access to the internet or with digital illiteracy. Low adaptability limits local people's engagement in the E-decision-making process of the local government. Another challenge is affordability for some portions of the population of new technologies, which will create inequality and a lack of trust (Kayembe & Nel, 2019) among local people in E-participation in the decision-making. A lack of digital

infrastructure is also a challenge for local governments to digitally reach more local residents, especially in the remote, mountainous areas. Setting up interactive websites, platforms, and applications requires IT expertise, which many local officials are lacking.

How to promote forms of E-participation and digital participation while the limited capabilities and access to information still remain? How to deal with the digital divide, ensure all people living in scattered villages in the rural areas can access information quickly and easily, encourage and involve people in making the decisions affecting their lives, and make commune decision-making participatory and inclusive are questions the local governments have to answer.

The commune leaders have to make *trade-offs* in dealing with these challenges; that means these grassroots decision-makers have to balance their concerns, which they want to address but cannot feasibly deal with all at the same time (Pollitt and Bouckaert, 2011). Specifically, public participation in commune decision-making is regulated and makes the commune decisions legitimate but takes time and needs resources while many local problems need prompt action and the commune government has scarce resources. IT and digital technologies allow fast information transmission and convenient online consultation regardless of geographical boundaries but are not familiar to many villagers, especially the older and vulnerable people (including the poor, people with disabilities, and people with low educational attainment) while the commune government has no IT staff and inadequate IT infrastructure.

The CLEAR model with ‘can do’, ‘like to do’, are ‘enabled to’ do, are ‘asked to’ do, and are ‘responded to’ for effective participation (Lowndes & Pratchett, 2006) is applicable in the participatory local decision-making when referring the factors and conditions of public participation. Given the emergence of the digital technologies and conditions of the rural communities in developing countries, the CLEARER model for participatory local decision-making could be examined, in which the rural communities can participate, like to participate, are enabled and asked to participate, responded by the government on their contribution, equal to participate, and engaged in the relevant, realistic forms of participation.

The paper has not examined how the digital divide limits public participation in local decision-making, which is a limitation of the paper and needs further research.

Conclusion

In participatory decision-making at the grassroots level of government, people are engaged in every stage of the decision process from the level of being informed to being consulted, to enabling collaboration, and self-determination of the problems to be solved, development of alternatives, and selection of alternatives. Institutionalisation of participation and membership in local organisations promote participation while low educational attainment and low income cause people not engage in the higher level of participation. In the context of 4IR, the commune government—the lowest and closest-to-the-people level of government—is facing many challenges and has to make trade-offs in involving local residents in the commune decision-making. The four-C approach for participatory decision-making used by the commune governments in Nam Dinh province, Viet Nam implies that given the emergence of the new technologies, to ensure that no one is left behind, two-way communication of the local government with people is really needed. By communicating with people, the local government understands how to use appropriate digital technologies to consult and collaborate with them. More public values are created through co-production with involvement of people as the key actors.

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Appendix 1

Table1-1. Characteristics of the surveyed local residents

Characteristics		Frequency (persons)	Percentage (%)
Sex	Men	204	58.8
	Women	143	41.2
Age	Under 60	175	50.4
	60 and older	172	49.6
Educational attainment	Elementary	35	10.1
	Lower secondary	140	40.3
	Upper secondary	90	25.9
	College/ University	82	23.6
Household income	Poor/nearly poor	17	4.9
	Middle income	252	72.6
	High income	78	22.5
Role in the community	Village chief/head	26	7.6
	Member of the community organisations	23	6.6
	Member of the commune	52	15.0
Using internet connected devices	Never	151	43.5
	Sometimes	49	14.1
	Frequently	147	42.4

Table 1-2. Characteristics of the surveyed commune officials

Characteristics		Frequency (persons)	Percentage (%)
Office	People's Council (Elected body)	33	40.2
	People's Committee (Executive body)	49	59.8
Education attainment	Upper secondary	21	25.6
	College/University	60	73.2
	Post graduate	1	1.2
Using smart phones, tablets, internet connected personal computers	Sometimes	7	8.5
	Usually	75	91.5

Table 2. Percentage of the surveyed local residents participating in the commune decision-making

Actors	Level of public participation in the commune decision-making		
	Consultation	Collaboration	Self-determination
Men	49%	38.7%	9.8%
Women	41.3%	30.8%	12.6%
People under 60	44%	37.2%	12%
People aged 60 and older	47.1%	33.7%	9.9%
Poor/nearly poor	Null	Null	Null
Middle-income households	42%	34.4%	9.2%
High-income households	59.3%	42.6%	16.7%

Table 3. Impacts of the commune leaders' perception on the level of participation in the commune decision-making

	Percentage of commune leaders <i>consulting</i> local residents	Percentage of commune leaders <i>collaborating</i> with local residents	Percentage of commune leaders who let local residents <i>determine</i> the choices
Commune leaders <i>applying</i> the participatory decision-making approach	74.8%	69.1%	27.7%
Commune leaders <i>not applying</i> the participatory decision-making approach	57.8%	36.1%	7.9%

Appendix 2. Questions used in the questionnaire and in the unstructured interview

Questions on participation in the commune decision-making

- How does the commune government engage local residents in identifying problems to be solved in making decisions (on commune economic development, community land use, generating commune revenues and spending on the commune construction works financed by the community, commune investment)?
 - No engagement (Yes/No):
 - Informing (Yes/No):
 - Consultation (Yes/No):
 - Collaboration (Yes/No):
 - Self-determination (Yes/No):
- How does the commune government engage local residents in developing alternatives in making decisions (on commune economic development, community land use, generating commune revenues and spending on the commune construction works financed by the community, commune investment)?
 - No engagement (Yes/No):
 - Informing (Yes/No):
 - Consultation (Yes/No):
 - Collaboration (Yes/No):
 - Self-determination (Yes/No):
- How does the commune government engage local residents in selecting alternatives in making decisions (on commune economic development, community land use, generating commune revenues and spending on the commune construction works financed by the community, commune investment)?
 - No engagement (Yes/No):
 - Informing (Yes/No):
 - Consultation (Yes/No):
 - Collaboration (Yes/No):
 - Self-determination (Yes/No):
- What means does the commune government use to provide information?
 - Citizens' meeting (Yes/No):
 - At commune office and at village/communal house (Yes/No):
 - Information sheets/ Feedback sheets (Yes/No):
 - Commune radio broadcasting (Yes/No):
 - Commune website/ Commune social network (Yes/No):
 - Through village leaders (Yes/No):
 - Through local organisations (Yes/No):
- What means does the commune government use to consult people?
 - Citizens' meeting (Yes/No):
 - At commune office and at village/communal house (Yes/No):
 - Information sheets/ Feedback sheets (Yes/No):
 - Through village leaders (Yes/No):
 - Through local organisations (Yes/No):
- What are the reasons for no participation in the commune decision making?
 - No interest in participation
 - No participation because it is the government matter
 - No knowledge to participate
 - No participation because the commune government has their own decisions
 - Not asked to participate

- No time for participation
- No information to participate
- No idea how to participate
- Hesitation to participate
- No participation because of a lack of trust
- Commune officials do not know how to encourage public participation
- No participation because the commune government does not consider people's feedback for decision making
- No opportunities to voice because of dominance of others in the meetings
- Other

Questions used in the unstructured interview

- Why do you engage with the local residents at that level of participation in that stage of the commune decision making?
- How do you inform the people of incorporation of their inputs when making decisions? If not informing, why?
- Why do you think of the reasons for no public participation in the commune decision making?
- What actions should the commune government take to promote more public participation at a higher level in the commune decision making?