

A Crowdsourcing Platform Design for Creating Public Sector Innovation Based on the New Public Governance

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Abstract

This research aims to design and develop a crowdsourcing platform based on the New Public Governance paradigm, and to test whether it's suitable with the Thailand context. The methodology employed is the qualitative research which consists of interviewing 48 informants and 14 experts. The findings indicate that the development of a registration and login system for identity verification is essential for the success of this platform. However, this verification process be designed in a user-friendly way. The pilot projects include different types of innovation projects in which the actors interact and collaborate together, and the scope of the project is determined to be of benefits for the community as a whole. The platform is designed to collect comments before, during, and after the project implementation as well as connect and share on social media. Moreover, there will be several electronic fundraising channels with different fee charging rates.

Keywords: NPG, New Public Governance, Public Sector Innovation, Crowdsourcing, Fundraising, Platforms

Introduction

The formation of the new paradigm of New Public Governance (NPG), which is different from the New Public Management (NPM), resulted in new agendas that affected both public policy and public services delivery (Osborne, 2010: 9-12). The differences in conceptual assumptions of each paradigm have resulted in different characteristics, objectives, and roles of those involved in the public sector innovation for each paradigm (Hartley, 2005: 29). In the present day, Technology-Mediated Social/Civic Participation indicates that the masses can simultaneously achieve and develop creativity and innovation by participating and collaborating with one another (Leimeister, 2010: 246). Crowdsourcing is one of the techniques for mass participation (Mergel and Desouza, 2013: 882-883; Seltzer and Mahmoudi, 2012: 3). Crowdsourcing is considered a new and unique technique for crowds to participate and promote better changes in the community. It is also a fundraising channel and contributes to building partnerships between government agencies, business sectors, and

citizens. It supports the development of local communities (Stiver, Barroca, Minocha, Richards, and Roberts, 2015: 249-253) and is also linked to innovation (Saur-Amaral, 2015: 74-75).

Therefore, it is interesting to design and develop a crowdsourcing platform for creating the NPG-based innovations and learn how workable it is in Thailand context.

Literature Review

New Public Governance

Governance has become a main concept in the study of politics, economics and general society (Levi-Faur, 2012: 3) and is also being discussed in public administration circle (Peters and Pierre, 1998: 223). New Public Governance (NPG) describes the regime or paradigm emerging from the classic public administration and the new public management (Hartley, 2005: 29; Morgan and Shinn, 2014:5-8; Osborne, 2010: 9; Torfing and Triantafillou, 2014: 21). It is rooted in institutional and network theory (Osborne, 2010: 9) and emphasizes citizen-centric values (Hartley, 2005: 29; Morgan and Shinn, 2014: 3-6). NPG can also help uplift the importance of citizen and non-governmental organizations in dealing with government in order to co-produce public goods and services by using network collaboration of various actors horizontally (Poocharoen, 2015: 236-237); in addition to an emphasis on the limits of central control (Klijn, 2012: 209). It aims to empower and change the stakeholders' behaviour in both government and non-government sectors to enhance problem solving ability, generate new methods of participatory problem solving, and partner through exchanging ideas, knowledge, resources and innovation (Torfing and Triantafillou, 2014: 17-19). Moreover, NPG pays attention to increasing the local capacity of the construction of civic infrastructure, including abilities that would assist the community to become self-authoring (Morgan and Shinn, 2014: 6).

NPG is possible and can be successful when it provides an opportunity for participative collaboration in any form. Today, Information and Communication Technology (ICT) is being used worldwide and plays an important role in improving public participation and increasing involvement beyond the limits of time and place. The common methods widely used are web portals for exchanging opinions, online conversations, teleconferences, and online surveys. However, the processes or tools of ICT used for electronic Participation (e-Participation) are different according to the participation's purposes; thus, it must be used appropriately (Phang and Kankanhalli, 2008: 128).

Public Sector Innovation

Public Sector Innovation refers to the significant improvement of product values, processes or practices that have an impact on the upgrade of efficiency, effectiveness, and quality of public delivery. Such innovation would bring methods and tools for designing and implementing policies and would make changes in public services by improving the level of transparency, competency, performance and people's satisfaction (Leon, Simmonds, and Roman, 2012: 5) and serving needs of citizen (Pavapanunkul and Mahittichatkul, 2018: 46-47). In addition, new management styles like new organization design, new budget tools or human resource management tools can be considered innovations which can impact public policies (Leon et al., 2012: 5). Public Sector Innovation can be divided into 4 categories: process innovation including administrative process innovation and technological process innovation, product or service innovation, governance innovation, and conceptual innovation. The last two categories are an inter-organizational innovation (Vries, Bekkers, and Tummers, 2016: 152-154). The desired results of applying an innovation to the government sector are the uplift of quality in service delivery, the reducing of administrative burden and achieving simplification, cost reduction, participative public services, transparency, and performance improvement and efficiency (Lee, Hwang, and Choi, 2012: 149-150).

The different assumptions in each paradigm lead to differences in characteristics, purposes and roles of the people involved with innovations in each paradigm (Hartley, 2005: 29-30). NPG-based innovation would occur at above the organizational level, where there are numerous organizations connecting in a network of financial transactions, decision making, and performance evaluation. NPG-based innovation will be a crucial part of the public sector innovation in the future (Moore and Hartley, 2010: 53).

Crowdsourcing

Crowdsourcing was first introduced in 2006 (Brabham, 2008: 76) as a form of IT-mediated participatory activity in which individuals, institutions or organizations provide various offers to the crowd. Both individuals and groups work to complete a mission, solve a problem or create ideas willingly and openly, by participating in working, funding, exchanging knowledge and experiences that may share a common interest. The people who participate would have satisfaction according to the economic needs, social acceptance, self-esteem or personal skill development and the crowdsourcer would utilize the results from the individual and group participation (Estelles-Arolas and Gonzalez-Ladron-de-Guevara, 2012: 7).

Crowdsourcing provides a satisfying relation between organization and community, top-down and bottom-up and traditional-hierarchical management process and open creative process (Brabham, 2013: 4). Crowdsourcing entails issuing an open call and various motivations while the related concept such outsourcing involves with contract, business relationship and financial incentives (Zhao and Zhu, 2014: 421).

In the public sector, crowdsourcing is a new mechanism for generating collaboration between authority and citizens called “network communities” in order to design and implement ideas or projects (Morozova, 2015: 111). Crowdsourcing can be divided into 4 categories. The first category is crowd dissemination, representing an expansion of opportunity for pointing out an issue through an online community. Citizens can spread ideas or issues, and can have a participatory discussion, brainstorming, or report small or non-urgent problems (Brabham, 2013: 44-48). The second is crowd formulation, which aims to find and select the solutions or develop existing ideas to find alternatives. This category can be divided to crowd consulting, which depends on the knowledge and experience of the online community participants to develop ideas or solutions to form an effective public policy (Aitamurto and Chen, 2017: 60-62; Morozova, 2015: 113), and crowd contesting which focuses on finding and selecting the optimal solutions by applying the concept of competitions and prizes (Prpic, Taeihagh, and Melton, 2015: 342). The third category is crowd adoption, a form of an online community decision-making to support or not support projects or solutions, and can be divided into two: crowd voting, the use of different opinions and judgments in decision-making assisted by the crowd to support or not support projects or solutions (Brabham, 2013: 48-49), and crowdfunding, or online fundraising for projects, which has varied purposes including non-profit organization activities (Morozova, 2015: 113). The last category of crowdsourcing is crowd collaboration, which opens the possibility for the crowd to bid or volunteer to work on microtasks or human intelligence tasks. Reward of completing tasks can be varied from financial reward to other kinds. (Aitamurto and Chen, 2017: 59; Brabham, 2013: 50; Prpic et al., 2015: 342; Warner and Lakewood, 2011: 179). The tasks involved in crowd collaboration also include voluntary tasks aiming for the public interest.

Civic Crowdfunding

Civic crowdfunding, a subdivision of crowdfunding, is the use of fundraising for projects that generate community or quasi-public assets, and may result in commonly pooled resources or public goods (Davies, 2015: 342-343), community services, or public interest projects which may be long-lived or occur repeatedly.

The remarkable features of civic crowdfunding are lower or no funding fee for the projects of which require financial amount not exceeding the set limit, donating some funds for the projects and educating the initiators before the project starts. The project creators could be individuals, municipalities, or any other organization. Funding will be sponsored by the government authorities, for-profit or non-profit organizations, individual backers, local backers, important parties, or nearby communities, since they are all the users and beneficiaries once the project has been completed successfully. The project creators and the backers communicate through social media. Nevertheless, it is often limited by one-way communication such as liking, sharing, or retweeting through Facebook or Twitter, rather than multiple-way communication that form a network or connection to give feedback. However, online and offline communities are mutually a main driver of civic fundraising, thus the activities of the offline community of backers play a vital role in supporting the online community (Stiver, Barroca, Petre, Richards, and Roberts, 2015: 39,43). Besides, civic crowdfunding projects focus on local issues and development (Charbit and Desmoulins, 2017: 20-21), for instance, turning the dilapidated playground into a fantasy play facility-spacehive and creating small pocket park-ioby.

Civic Crowdfunding Platform

The distinctive characteristics of civic crowdfunding platforms, mixed crowdfunding and crowdsourcing, are designed to empower citizenship and civil society. Moreover, the initiator and business model are also considered as the criteria of civic crowdfunding platform (Charbit and Desmoulins, 2017: 15-17).

This section reviews two Thailand crowdfunding platforms; www.taejai.com and www.asiola.co.th and three international civic crowdfunding platforms; www.spacehive.com, www.ioby.org and www.citizeninvestor.com. The results are shown in Table 1.

Table 1: Comparing the characteristics of crowdsourcing platforms

Platform	taejai.com	asiola.co.th	spacehive.com	ioby.org	citizeninvestor.com
Owner	Foundation for Thailand Rural Reconstruction Movement	Asiola Co., Ltd	Spacehive, Ltd.	In Our Backyard, Inc.	Citizeninvestor, Inc.
Target Project	Creative Projects which are beneficial to the community, environment, education, health, art, culture, and technology.	Open for a variety of ideas, including music, food, fashion and art.	Public projects in the United Kingdom	Small-scale social and environmental projects in local communities.	Local projects with budget constraints
Project Initiator	General public	Artists and general public	General public	General public	Local government
Expressing an opinion	Can comment on projects which already opened for fundraising.	Cannot comment on projects.	Can comment on projects which already opened for fundraising.	Can comment on projects which already opened for fundraising.	Cannot comment on projects.
Compensation and tax privileges	Can give something in return to the supporters, and they can also claim a tax deduction.	Every project can give something in return to the supporters.	Can give something in return to the supporters.	The supporters can claim a tax deduction.	The supporters can claim a tax deduction.

Table 1: (Con.)

Platform	taejai.com	asiola.co.th	spacehive.com	ioby.org	citizinvestor.com
Social media	-Register and sign in with Facebook. -Provide links for info. Sharing via social media.	-Register and sign in with Facebook. -Provide links for info. Sharing via social media.	-Register and sign in with Facebook. -Provide links for info. Sharing via social media.	-Provide links for info. Sharing via social media.	-Register and sign in with Facebook. -Provide links for info. Sharing via social media.
Fee	10%	20%	5%	8%	8%

It was found that each individual platform had its own unique characteristics in terms of project-supporting objectives, a group of project or concept proponents, management approaches, and the degree of openness for stakeholders' participation in expressing an opinion towards the project which was limited in every platform before selecting the project for fundraising. There were also no platforms designed and targeted specifically for innovative projects in the public sector, especially based on network and participation in Thailand's context.

Research Methodology

This study aimed to design and develop a crowdsourcing platform for creating innovations under the NPG in order to enable the platforms to be practical under the Thailand's context, where the government and non-government sectors as well as citizens have insufficient experience, and scattered images in term of the NPG, public sector innovation, and crowdsourcing. Therefore, in this qualitative research, the data collection from the samples chosen by purposive sampling was done by conducting unstructured interviews (Fontana and Frey, 1994: 365-368) with 8 executives or representatives of local government organizations who won the King Prajadhipok's Golden Award (in terms of transparency and public participation promotion, and strengthening the network of the government, private, and civil society), the 8 project managers or project proponents who won Thailand Public Service Awards (excellent service innovation award and excellent service development award), 16 project creators, and 16 backers in crowdsourcing platforms, totaling 48 persons. Moreover, the in-depth interviews were conducted in parallel with expert interviews (Flick, 2014: 227-230), with 14 experts in public sector innovation, public administration, and in engagement/electronic participation, including 2 executives/founders /owners of crowdsourcing platforms (see Appendix A for informant information). All were face-to-face interviews with voice recordings, and the topics of the interviews were forwarded in advance (see Appendix B for interview's topic information).

Research Results

After conducting the interviews and analyzing the acquired information, significant issues arose regarding the design and development of a crowdsourcing platform with the specific purpose of creating public sector innovations based on the NPG and enabling the platform to be practical in the context of Thailand. They are divided in 6 categories as follows:

Register and Verification

The interviewees spoke about verification of identity, especially for those who take part in giving comments so as to provide constructive, quality, and responsible feedback. The opinion of a local administrative executive, who received the King Prajadhipok's award, was that:

"Everyone can access to the system at any time, can join easily, but there might be some disadvantages such as giving too aggressive comments. So, there must be some systems to screen members and to check the identification number for verification of identity."

In addition, many interviewees gave further observations on the verification of identity, regarding member registration that might be a barrier to participation, such as the opinion of one of the local administration executives:

"A must to register will lessen simplicity."

Project

The interviewees have a variety of views about the projects that will be hosted on the platform. However, from a different point of view, the common feature discussed is about the interaction or participation between actors and features of the project. The opinion of one of the government innovation experts who discussed the type of innovation commented that:

"A potentially feasible project in public sector may be called as an innovation of management that generates public services which connect the customers with service providers."

One of the public administration experts, considering the size of the project, commented that: "There is a possibility if the scale is not large and can be manageable. The scope of the work can be divided into small tasks which allow people to get involved."

And one of the local administration executives emphasized the benefits of the project to the community as follows:

"Being open-minded to get something that may be beneficial for the community can be included in the project to get feedback and improvement so as to create extensive and comfortable participation, but there must be a good management system."

Participation

Commenting on the platform is one of the issues that most interviewees consider very important. It can be seen from the opinion of the deputy mayor who mentioned that:

"This is not an advertising website but to express an opinion."

And the opinion of one of the Thailand Public Service Awards winners was that:

"This platform responds well in terms of the community involvement, but it should be more completed. In other words, in addition to providing support, it must respond to the feedback as well."

Moreover, the interviewees also discussed the design of commenting in which the degree of openness, access time, and the types of participants must be determined. In some cases, expert opinion is required as follows:

"The number of people who will be involved must be designed. Some cases will allow only those who are invited, and some cases are open for public. It has to be designed as a small circle, a closed circle or open loop, depending on the problem and process. This is because some cases may require opinions from many people, so it has to be open for public. However, some cases require expert opinion with specific questions," one of the public administration experts commented.

"Crowdsourcing is not just about innovation. It will help in the dimensions that the government is still very narrow which is about people participation to help one another by sharing their opinions. For example, in the UK, there is a government lab where people or experts will come up with ideas such as about traffic congestion, how cities should be managed. This is what Thailand still lack of." one of the government innovation experts explained.

"If it is related to any technical issues, it is necessary to ask for the expert opinion. But if it is about something in general, we need to listen to general comments," one of the participation experts said.

In terms of the social media connection, interviewees considered it an important tool for communicating, creating awareness, and attracting users to the platforms; especially the link

with Facebook and Line which are popular social media with many users in Thailand. According to one of the electronic participation experts:

"There must be a link to social media since Thailand is the country where social media is more commonly used compared to website; especially with Facebook, YouTube, and Line respectively. If the platform is not made available via social media, there may be fewer chances for other people to access to. If there is no Facebook Page available, it will not be able to get people to use the main site."

This is consistent with the opinion of one of the local administrators who commented that:

"Normally, people in the community are using Facebook and Line anyway. If there is a link and share, there will be more chances for the people to access to, to see and follow, or to ask for support. But there is a need to build awareness of this communicating channel even more."

Additionally, another local administrator had suggestions about the design and implementation of the platform as follows:

"It must be easy to communicate with people, such as English can be a barrier to communication with the local people; especially the elderly and middle aged. Also, it may be necessary to educate people to use it."

Fundraising

In the process of raising funds, the interviewees emphasized the design of a transparent platform that could be monitored by displaying donor names and amounts, as well as reporting results after receiving funds for the project, in order to build trust among stakeholders. One of the participation experts commented on the platform design:

"It can be checked manually, such as donor name, amount and spending money"

This is consistent with the mayor's opinion:

"By providing the chances to take the real action in participation, opening to transparent inspection, and opening for the assessment and recommendation; these can contribute to the participation"

Service Fees

The interviewees commented on the platform's service fees in two key areas. Firstly, the rate of service charge that is appropriate. It may vary according to the amount of funds raised or the time it takes to raise funds. According to an interviewee who is responsible for a project that received the Thailand Public Service Awards:

"The highlight of crowdsourcing is the cost reduction. So, there should be a payment system with lower fees compared to credit cards, such as the payment system where fees are calculated by range; and it may also consider whether the time period can affect the charge, or the feature used can affect the fee calculation or not."

This is consistent with the opinion of one of the public administration experts:

"Fee in comparison with e-commerce, the rate of 10% may be higher and may be a barrier for people not to participate. Anyway, the calculation method may look at the proportion of funds that need to be raised."

And one of the local administrators commented that:

"The fee must be at a reasonable rate. It may be divided into ranges, such as how many percentages for the project that costs not more than 100,000 Baht and how many percentages for the project that costs more than 100,000 Baht."

Secondly, the fee must be clearly displayed and understood by the users. According to the interviewee who received the Thailand Public Service Awards:

"Charges should be clearly stated in advance, such as stating on the homepage, and the rates should be differentiated by the amount of funding raised."

And the mayor stated that:

"Fee must be clearly communicated to be understood."

Fundraising Channel

Most interviewees agreed that the funding channels should be varied and easy to use. These are some examples of the interviewees' comments:

"Financial transactions should be widely open."

"The donation channel should be varied."

"The donation method seems to be more convenient to transfer money since there are also elderly people."

"Fundraising methods may include e-Payment or QR Code, etc."

In addition, two participation and e-participation specialists emphasized data security in the platform as follows:

"Things to be concerned include: System security, Data theft, and Data back up,"

"There is still a concern about credit card cut up; will the data given be reliable?"

Discussion

There is a need to consider identity verification that does not reduce the ease of use of the platform, since it has an impact on the positive attitudes for using and sharing knowledge on the platform (Rechenberger, Jung, Schmidt, and Rosenkranz, 2015: 10). As a result, the platform users must be practicably determined and classified into different types of the users. Not all platform activities require the same quality of identification and authentication (Schossböck, Rinnerbauer, Sachs, Wenda and Parycek, 2016: 335). For example, in order to use the platform to initiate ideas/creative projects or to give a comment, the users must register first by giving the required information, including name, surname, contact number, e-mail address, etc. Incentives, however, can also be used to influence number of comments posted on the platform (Ghezzi, Gabelloni, Martini and Natalicchio, 2018: 352-353). Meanwhile, for those who want to initiate ideas/ projects, they need to add a photocopy of their ID card to verify their identity. This is because it may be used as evidence to withdraw money if the project is funded. However, for those who donate funds, the platform must be designed properly so that they can easily use it without having to register beforehand. The basic information required includes phone numbers and e-mail address.

Moreover, requiring membership information also creates a networking database, which can be used to create a network community of both individual and organizational members. They may later interact with each other above the level of the organization, contributing innovations as a key feature of government innovation in the NPG (Moore and Hartley, 2010: 64-65). Therefore, the system design for initiating ideas/projects should be open to the initiatives of individuals, organizations, or multiple individuals and organizations cooperating together. With the characteristics of this system design, it can be categorized accordingly to crowd dissemination. As for the ideas/projects, they not only need to be creative and beneficial to the public, they also need to be well-specified, modular (Ghezzi et al., 2018: 355) with a defined timeline and legible process. In addition, crowdsourcing that takes advantages from characteristics of crowd formulation also uses Technology-Mediated Social/Civic Participation for participation and collaboration, in which people can simultaneously develop and achieve creativity and innovation (Leimeister, 2010: 246). The projects' classification, therefore, should be well-organized, making them easier to be sighted and approached by innovative ideas holders which are the platform's target. It may also be possible to classify ideas/projects by the types of public sector innovation.

Each NPG-based innovation project may require the use of more than one category of crowdsourcing such as the use of crowd dissemination to introduce the ideas, crowd formulation to exchange or convey opinions, and crowdfunding to raise funds allowing the in-processing project to become practical. A platform, therefore, must be designed to be able to support at least three mentioned categories, so that all innovation processes required in the

project can be performed on only one platform. This way the platform would become a channel providing official and concrete information to participants, influencing their decision to get involved in the project (Standing and Standing, 2018: 74). The design of the platform allows users to express their opinions before, during, and after operating the project. Connectivity to social media is designed to provide a continual connection beginning from project initiation by inviting people to comment. Then, when the project is launched, it can invite people to join fundraising. Upon project completion, it can let people know that the project is done. Fundraising allows the backers to self-check immediately the names and the amount of money funded. For the platform service charges, detailed information-how users are charged, how fees are calculated, or which rate is used in the calculation-must be clarified to the users. These design concepts with characteristics of self-checking and explicit aspect of rule and milestones are linked to issues related to transparency and trust (Ghezzi et al., 2018: 351), which are consistent with other research, indicating that it will have a positive effect on the participation or success of the platform adoption in practice (Kosonen, Gan, Olander, and Blomqvist, 2013: 3; Rechenberger et al., 2015; Zheng, Li, and Hou, 2014: 77).

Conclusion

For innovation based on the NPG, there required stakeholders involved in various processes as a network. Crowdsourcing, which has the potential to be a tool for these networks, and to promotes interaction by using technology-mediated social/civic participation. For the design of the crowdsourcing platform to create innovation based on the NPG to be practical in the context of Thai society, the design of registration and sign-in systems are required, with respect to identity verification, and should not diminish the ease of using the platform. The projects ideally include various types of innovation projects where their members are related and involved among each other. The projects, moreover, must be explicit in term of its scopes and must exist for benefits of the whole community. The platform is designed to solicit comments before, during, and after the project implementation, and connect to multiple social media providers simultaneously. It should be various electronic fundraising channels in which a fee charging rate will be calculated differently according to the amount of money funded in each project. However, such a platform design may have other related technological or regulatory constraints in which the platform developers need to examine and improve the design to match with the needs of the organization that owns the platform. Crowdsourcing platform is designed for online processing which not require the same degree of participation or collaboration. Further research could explore the extent of user's participation and collaboration in each process.

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Appendix A: Types and Numbers of Interviewees

In order to acquire necessary information, the interviews have been conducted. Types and numbers of interviewees are as follows:

Informants (48)	Executives or representatives of local government organizations who won the King Prajadhipok's Golden Award	8
	Project managers or project proponents who won Thailand Public Service Awards	8
	Project creators in crowdsourcing platforms	16
	Backers in crowdsourcing platforms	16
Experts (14)	Experts in public sector innovation	4
	Expert in public administration	4
	Expert in engagement/electronic participation	4
	Executive/founders/owners of crowdsourcing platform	2

Appendix B: Topic Questions Used in Conducted Interviews

The interviews conducted by asking interviewees questions or asking them to give their opinions toward specific topics. In the interviews, questions that have been focused on cover 6 topics in total as follows:

- Characteristics of public sector innovation projects compatible with crowdsourcing and fundraising campaign
- Platform's log-in system and security systems
- Comments posting on the platform
- The idea to connect a platform and online social medias
- Platform's fundraising channels
- Platform service's fee and charges