

Value Co-creation Platform as Part of an Integrative Group Model-Building Process in Policy Development in Indonesia

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Abstract The Indonesian government nowadays faces multidimensional and multifaceted problems that require a more proper framework of policy making. Group model building (GMB), in parallel with system dynamics, becomes a successful methodology in policy making though some weaknesses exist. We have proposed an integrative GMB process by adapting the framework of value co-creation and orchestration platform to overcome those problems. Three management strategies of value co-creation as the main findings are revoked: involvement, curation, and empowerment. Those keywords are inputted to improve the GMB process and applied to the wicked problems found in the Indonesian context that needs more integrative solution to see how the GMB platform may be implemented in the real-world problem. Although it is still an ongoing process, we can see that by adapting the value co-creation platform as part of the GMB process, it is advantageous in defining what activities should be done by each actor (e.g., facilitator, modeler, stakeholders) in order to have a better policy recommendation in the part of policy making and policy development process.

Introduction

The Indonesian government is progressively being tasked with solving complex policy issues. Some of these policy issues are so complex they have been considered as wicked problems. The term “wicked problems” is found in many practices, including public administration, health education, ecology, forestry, and most often in policy science (Batie 2008). It can be characterized as a problem that makes it hard to clarify the objectives that want to be achieved, which involves many stakeholders and involves different versions of the problem that is currently faced (Australian Public Service Commission 2007).

In Indonesia, wicked problems have been appearing with higher frequency on the policy agenda, e.g., climate change, corruption, unemployment, national debts, recessions, ecological degradation, water and food shortages, lack of health care,

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and so on (Roberts 2012). Although the Indonesian government has worked on efforts to handle these problems, many agreed on the fact that wicked problems were indeed unmanageable. Moreover, the current conditions that need improvement are each of the actors and stakeholders in Indonesia still has difficulties to bridge each need and to interact with others. There is a need of an integrated process in solving the problem between government and other stakeholders, such as local governments, local communities, industries, and academic communities, to have a better policy development.

One of the methodologies that are successful in the content of policy making globally is the group model building (GMB) using system dynamics. GMB is a well-known process in policy making which includes many interactive processes before building and executing the model. GMB is considered to be an appropriate process to define a problem where there are many stakeholders included in the problem or when the problem is too complicated to be tackled. However, previous literature has stated that some limitations can be found in the GMB process. First, the context in which group modeling projects take place may be important (Vennix 1999). Moreover, factors such as the type of organization, the organizational culture, and the history of participants may affect the project implementation (Bérard 2010).

We proposed an integrative group model-building process by adapting the framework of value co-creation and orchestration platform in order to enhance the process of policy making and policy development in Indonesia, considering some limitation on the character of policy making in Indonesia that needs more integrative solution. Moreover, by extending the process using the platform, it is expected that the process will give greater advantage, which is creating more value in the process of policy making and policy development.

The rest of this chapter is presented by using a systematic writing organization. First, the background on GMB and why its process can be extended will be briefly explained. It will be followed by the concepts of value co-creation and orchestration platform. Next, the proposed value co-creation platform on the GMB process will be defined. In addition, the application of the platform that has been implemented in some process in policy making in Indonesia is given. Last but not the least, a conclusion of remarks will be shown in the last section.

Existing Platform for Policy Modeling

Decision-makers design policies that are often difficult to implement, because the design fails to take into account the key feedback that will generate undesired consequences or limit the benefits of actions (Bérard 2010). This may be the case more specifically in circumstances when the system under consideration has many components that may not be easily taken into account by decision-makers' mental models. This fact leads to the need of using approaches such as system dynamics

modeling that helps to recognize the dynamic behavior that a system experiences and, consequently, also to mitigate the cognitive limits of decision-makers.

The modeling process using system dynamics can be carried out through two types of projects: modeling projects and group modeling projects. The first type is managed by one or more modelers, who design the models themselves and gain the expertise and required data from many sources and often from experts on the modeled system (Bérard 2010). While the second type of project, group model building, refers to a system dynamics model-building process in which a group is deeply involved in the process of model construction (Vennix 1999).

In a group model building (GMB), the participants develop one or many models during structured sessions with the help of a facilitator, who must favor the clarification of knowledge within the group (Bérard 2010). These activities are typically formed as workshops, work sessions, or conferences. The participants of the workshops are the “clients” for whom the model is developed, and can be researchers that are the expert in the problem being discussed, and/or practitioners who are themselves actors of the system.

There are five components of the process in doing GMB, as mentioned by Bérard (2010): problem articulation, dynamic hypothesis, simulation model formulation, model testing, and formulation of strategies and evaluation. However, each step of the group modeling process may include a succession of individual activities, subgroup workshops, and plenary sessions. It depends on how suitable the activities are to the actors that are involved in the GMB.

Although previous literature has clarified on how the GMB process could be applied to some problems in policy making and policy development, some limitations still should be noted. First, the context in which group modeling projects take place may be important (Vennix 1999). Another suggestion is that factors such as the type of organization, the organizational culture, and the history of participants may affect the project implementation (Bérard 2010). In addition, the model is limited to the methodological frameworks using system dynamics modeling. While in the practice, other methods of modeling could be considered in the process.

To cope with the limitations, we propose a group model building where value co-creation platform becomes a part in the GMB process to enhance the policy making and policy development process. We implement the platform based on the real ongoing case study in Indonesia, considering the fact that the type of factors mentioned (organizational, historical, or cultural type) has a role in influencing the project implementation of the GMB process. In the next session, a brief explanation on value co-creation platform will be presented.

Value Co-creation and Orchestration Platform

Service science defines service as a phenomenon observable in the world in terms of a service system with value co-creation interactions among entities by taking a bird's-eye view of various perspectives in which service system entities can be

people, businesses, nonprofits, government agencies, and even cities (Kijima, Rintamki, & Mitronen, Value Orchestration Platform: Model and Strategies, 2013). Co-creation itself is a very broad term with a broad range of applications.

Value co-creation is an emerging concept in business, marketing, management, and many other practices. Over the last few years, there have been researches that provide a starting point in the discussion of different perspectives on value co-creation. The term value co-creation gains much interest in innovation research that requires the adoption of new terminology, frameworks, and fields of research exploration. The potential advantages from the adoption of value co-creation practices and strategies are one main point that needs to be further addressed.

Kijima et al. (2013) has identified value co-creation interaction as an active, creative, and social process based on collaboration between the provider and customer. It is a form of collaborative creativity of customers and providers that is used to enhance the organization's knowledge-acquisition processes by involving the customer in the creation of meaning and value, although it is often initiated by the provider. There are four phases of the value co-creation process (Kijima et al. 2013) which are: co-experience, co-definition, co-elevation, and co-development.

In co-experience, the provider and customer may need to share an internal model to co-define a mutual understanding about the process or the problem that want to be defined. By interacting with each other, the customer and provider may learn about the other's preferences, capabilities, and expectations so that they may co-define and share a common internal model (Galbrun and Kijima 2009).

Co-elevation is a zigzag-shaped spiral up process of expectation of the customers and abilities of the providers. Higher expectations by individuals lead to higher quality and greater value. Moreover, co-development pays attention to co-innovation generated by simultaneous collaboration among the various entities (Novani et al. 2015).

In the value orchestration platform, there are three management strategies to be implemented: involvement, curation, and empowerment. The platform is concerned with the methods to involve appropriate customers and providers in the platform and to vitalize interactions between customers and providers. Curation is essential for the platform to encourage customers and providers to co-elevate and co-develop, while empowerment refers to how a platform empowers customers and providers so that each side finds the other attractive and both are motivated to interact with each other (Kijima et al. 2013). The three management strategies and value co-creation platform framework are shown in Fig. 1.

By adapting the framework of value co-creation and value orchestration platform, we aim to look at how the GMB process can be approached using this platform, where in the process, each actor has an objective to have value co-creation on each of the phase in the GMB process. The proposed model will be defined in the next session.

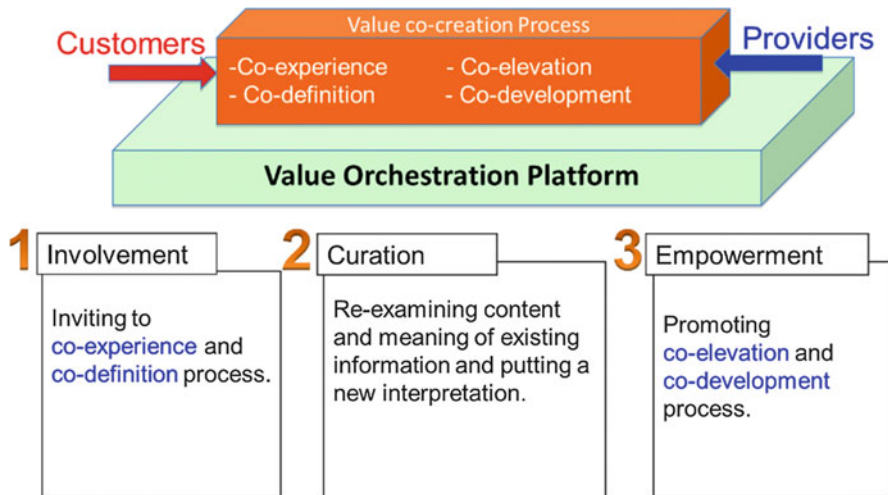


Fig. 1 Three management strategies included in the two-layered service system (Novani et al. 2015; Galbrun and Kijima 2009)

Value Co-creation: Group Model-Building Platform

We proposed an integrative group model-building process by adapting the framework of value co-creation and orchestration platform. *Why?* Because the existing group model building using system dynamics (Vennix 1999) can be seen as having the process of involvement, curation, and empowerment in the process itself. Moreover, by extending the process using the platform, it is expected that the process will give greater advantage, which is creating value, in the process of policy making and policy development.

There are three main actors involved in the proposed GMB platform: the facilitator, stakeholder, and decision-maker. The facilitator is responsible to facilitate the whole activity included in the GMB process. The tasks of the facilitator are inviting relevant stakeholders, decision-makers, and modelers, grouping the issues, making intensive discussion within a sector or among sectors to improve and/or to develop a model that can be used to resolve the issues, and confronting and coordinating the results from the model to assist implementation of the model. The role of the facilitator is considered as most important, where they have to maintain all parties to be engaged to each other and work together to solve problems.

Stakeholders are the actors who are involved in the issues that want to be solved. The tasks of the stakeholder are describing the issues based on some questions such as *What is the current situation happening? What approach has been done to resolve the issues? Has the approach been able to give in-depth understanding to the policy development? What is the main weakness of the approach?* After the issues have been identified, the next tasks are to discuss relevant ideas that can be

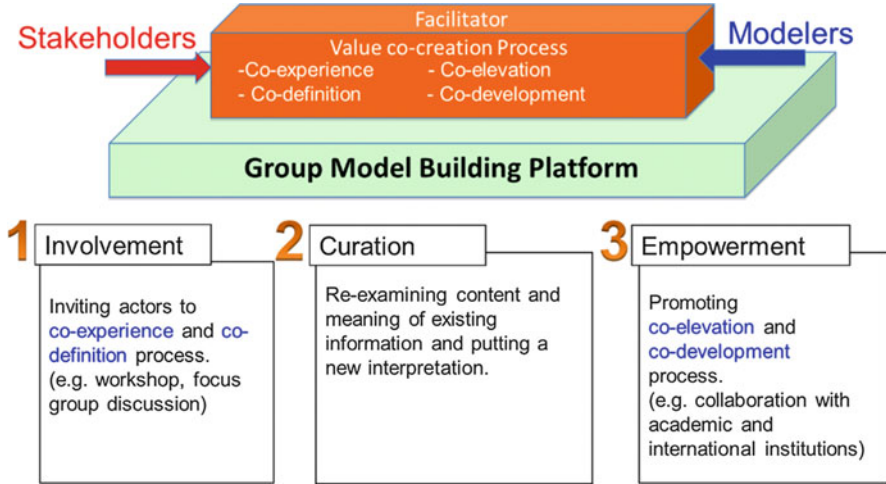


Fig. 2 Proposed group model-building platform and management strategies in two-layered service system

implemented to improve the quality of solving the problem, making a model together with the modeler, and analyzing feasibility of the results to be implemented.

The third actor is the decision-maker. The decision-maker is responsible to decide what kind of policy resulted from the process of GMB. The tasks of the decision-maker are making confirmation about the current issues and the previous policy that has been implemented, getting involved in discussion and the process on developing the model together with the modeler, and analyzing the feasibility of the results to be implemented.

To generate the integrative strategies in the GMB platform shown in Fig. 2, we have implemented the three management strategies in building a value co-creation platform according to Galbrun and Kijima (2009). The three management strategies in the GMB platform for policy making development are as follows:

- *Involvement.* Inviting all actors so that co-experience and co-definition process could be accomplished. The platform orchestrator (facilitator) is primarily having the focus in how to get the stakeholders “on board” to involve in the platform and to vitalize interactions between the customer (stakeholder) and provider (modeler). This involvement strategy can be implemented through some events such as workshop and formal focus group discussion, where all three actors are in the same board at the same time.
- *Curation.* Value curation is essential for the platform to encourage all actors to co-elevate and co-develop. The curation strategy can be implemented by reexamining content and meaning of existing information of the problem and putting a new interpretation in looking at the problem. In this process, actors together have to collect, select, analyze, edit, and reexamine content and

- meaning of existing issues in order to put a new interpretation on and give a new meaning to them. Based on the newly developed interpretation and meaning, value co-creation process is expected to be improved.
- *Empowerment.* Empowerment is another aspect of value orchestration, particularly for the co-elevation and co-development phases (Novani et al. 2015). Promoting co-elevation and co-development process could be done when stakeholders are empowered by lifting up their aspiration level. In this process, they could consider the effort through collaboration with international institutions, establishing group model-building activities on priority sectors, and capacity building for policy makers.

The integrative GMB platform is shown in Fig. 3. This whole process is advantageous in enhancing the value co-creation among each stakeholder and actor in the development of policy making. Once the relevant stakeholders were invited, interaction between stakeholders is conducted. The literature review aims to identify theoretical models that already exist or are being developed by academics or previous works and literature. Moreover, it is the phase where all actors identify the models that are available and can be used as input in the next phase. Based on the initial models, relevant stakeholders are invited to the workshop (WS1, WS2, and WS3). In the model-building and validation phases, the stakeholders that are potentially concerned and interested in evaluating and developing

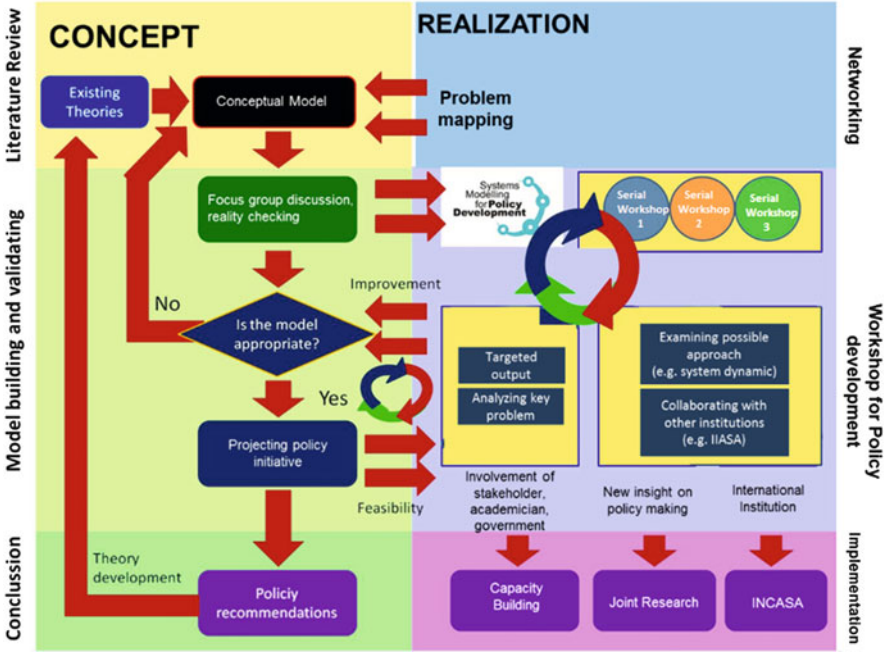


Fig. 3 Proposed value co-creation platform in the GMB process

the initial models are involved. These first two phases are considered as the starting process of *involvement* in the three management strategies previously discussed.

Using this interactive GMB process, the existing model which has resulted from the literature review can be examined and adapted into the model-building process. The modeler, facilitated by the facilitator, however, should use a common language where all the actors involved could understand in order to get a new interpretation on the problem and on how the problems can be solved.

Each stakeholder may express their assumptions and perceptions, so the process will be more comprehensive and a robust model can be produced. At this phase, stakeholders may work together with the modeler, so that the initial model from academicians could be criticized, modified, and adjusted based on their needs and knowledge. In the process of model building and validating, value *curation* is preceded by the activities of reexamining the previous model and contrasting it with the real-world problem where all stakeholders and modelers discuss and try to build a more suitable model for the current problem.

In addition, in the model-building and validating process, value *empowerment* could occur by having a collaboration with institutions such as the government, academic institution, and international institutions that also have a concern on the problems that are being discussed. With this collaboration, it is expected for the stakeholders to be more empowered so that they can lift up their aspiration level to solve the current problem.

In the conclusion part of the integrative GMB process, each stakeholder may propose some recommendations to the policy making process based on the whole process that have been followed. Hopefully, there is consistency, synergy, and cooperation among stakeholders to solve the problem and give a better result in the policy recommendation.

Application of Value Co-creation Group Model-Building Platform in Indonesia

As previously mentioned, Indonesia is facing some complex policy problems. To see how the proposed GMB platform could be possibly implemented in the real-world problem, in this section we will present a study case on an ongoing problem of the rice production in Indonesia where some of the process on the proposed GMB platform has been done in order to have a better policy making and development process.

The implementation has been done since 2011 until 2012 at several locations in Indonesia, i.e., Jogjakarta, Bandung, and Jakarta. The main actors in this platform are facilitators. We define the facilitators as an institution that is responsible to organize, arrange, and manage the GMB process. In this case, we have two facilitators, i.e., President's Delivery Unit for Development Monitoring and Oversight (*UKP-PPP*) of the Republic of Indonesia and the School of Business and

Management (*SBM-ITB*), Bandung Institute of Technology. *UKP-PPP* is a governmental institution that is responsible to invite relevant stakeholders in the governmental level, i.e., ministries, agencies, and local governments, and to facilitate fund to hold the workshop and seminar. *SBM-ITB* is a public educational institution that is responsible to invite relevant stakeholders in the academic level, in this case as the representative of universities and academic/practitioner in a local and international scope.

At the literature review phase, researchers from academic institutions have several approaches for policy development in Indonesia, i.e., people-centered approaches, the application of economic models for environmental policy development, system dynamics approach, social network analysis, and geospatial modeling of national economic corridors. In this step, the researchers from academic institutions make a mapping of issues and the approaches as well.

The process is continuing to the discussion of issues and the existing approach. A series of workshops involving academia, industry, and government (e.g., ministries, agencies, local governments) were planned and conducted. Three workshops have been done in 4 months starting on 22 October 2011, 26 November 2011, and 28 January 2012. These three workshops involved 24 presenters, 6 invited speakers, and 111 submitted papers and were attended by 226 participants, which consist of 38 % academics, 14 % practitioners from private companies, 17 % practitioners from state-owned research and development agencies, and 31 % representatives of the government (e.g., ministries, presidential office). The intensive discussion was conducted to resolve the issues from each sector. An academic facilitator is provided to manage the discussion. In the discussion, one of the presenters explains the issues and methodology he/she uses to tackle the problem. After that, the stakeholders are involved to give their opinion and critics based on their own experience.

After several workshops in 2011, the facilitators evaluated the results of the workshops and identify special or crucial issues that should be handled. To promote the issues, the facilitators conducted thematic workshops on priority sectors. The workshop is aimed at confronting and coordinating the results from the previous discussion about the issues and the methodologies in a more intensive way. Thematic workshops were conducted to closely connect academics, industry, and policy makers in formulating policies in those specific sectors. The first thematic was run on 25 February 2012 focusing on food security with the theme *Achieving 10 Million Ton Rice Production Surplus in 2014*, which involved relevant ministries (e.g., Ministry of Agriculture, Ministry of Public Works, Ministry of Trade, and Ministry of State-Owned Enterprises), agencies, state-owned enterprises, academics, and other related stakeholders. The first thematic workshop discussed the strategies, requirements, and challenges to achieve the 10 million ton surplus.

Through the ongoing processes, we have implemented the proposed management strategies, i.e., involvement, curation, and empowerment in the activity.

- *Involvement*: having a focus group discussion and several workshops to have the co-experience and co-definition process on the issues that have been discussed.

The facilitators have chosen and invited relevant stakeholders to be “on board” and facilitate the interactions to be going on between them. This involvement strategy also involves:

1. Developing research networks and national stakeholders: In Indonesia, there have been many researchers and research products that can be related to national and regional policies. On the other hand, there are many stakeholders from the world of business and government who need policy analysis inputs. Group model-building activities are started by developing a database of these researchers and stakeholder networks. The stakeholders who have been involved in this activity are the Ministry of Energy and Mineral Resources, Ministry of Research and Technology, Ministry of Agriculture, Ministry of Health, etc.
 2. Developing a network of international scientists and stakeholders: Not only in Indonesia, many international research institutes have excellent policy analysis capacity, for example, the International Energy Agency (IEA) which includes Indonesia as one of the countries in their energy analysis. In addition, there is also the International Institute for Applied Systems Analysis (IIASA), which is a world-renowned institution in the global policy analysis based on the system analysis. In establishing this international network, Indonesia became a member of IIASA in June 2012, by first establishing the Indonesian National Committee for Applied Systems Analysis (INCASA) as a national member organization of IIASA.
- *Curation*: within the thematic workshops, reexamining content and meaning of existing information and putting a new interpretation are accomplished. The facilitators have to be proactive to select some crucial issues to follow up. One of the implementations of this strategy is to activate a *triple helix* interaction. The *triple helix* interaction between academics, business, and government is an important part of group-based modeling for national policy making. In achieving the triple helix interaction, the workshop format is considered as the most appropriate format. With the workshop, researchers can directly receive feedback and input from policy makers in business and government. Thus, researchers can directly improve their research, to accommodate different perceptions expressed by workshop participants.
 - *Empowerment*: the facilitators have conducted some collaboration with international institutions to promote co-elevation and co-development process. Some implementation of this strategy includes:
 1. Capacity building: Though several inputs for the policy makers have been obtained through workshops, the ability of policy makers to analyze a system or a problem needs to be developed. The increase of their capacity will also contribute significantly to the process of the future GMB process. Policy makers in the future are expected to make necessary revisions directly to research and the policy by using GMB. Some trainings and tutorials have been given with some cooperation with the ministries and agencies. System

dynamics, one of the approaches which is considered being the most general and understandable approach, is used to be one approach in the capacity building process.

2. Joint research: GMB activity followed with joint research activities as well. Joint research is an attempt to solve the actual problems facing policy makers today. In Indonesia, some joint research activities are still on the process, including policy analysis together with IIASA as an international institution. On the food sector, to illustrate the process of group-based modeling has been carried out; the following example was appointed joint research processes related to the development of policy making in the beef industry in West Sumatra. SBM-ITB, as an academic institution, was asked to participate in the capacity building process and the modeling of the system. The case also involves government institutions (regional and national). With the collaboration between international institutions, academic institutions, and government institutions, an integrative GMB process could be advantageous in the policy making and development process (Fig. 4).

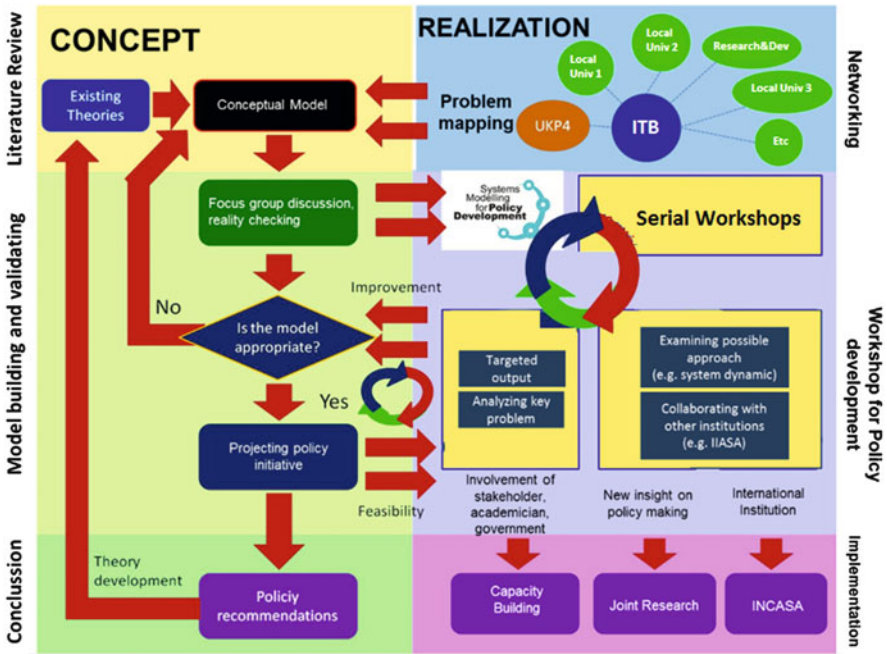


Fig. 4 Proposed value co-creation platform in the GMB process on the case study in Indonesia

Conclusion

We have proposed an integrative group model-building process by adapting the framework of value co-creation and orchestration platform in order to enhance the process of policy making and policy development in Indonesia, considering some limitation on the character of policy making in Indonesia that needs more integrative solution. By extending the process using the platform, the process of GMB in terms of policy making and development will give greater advantage, which is creating more value for all actors that participate in the process.

In the proposed GMB platform, we can define three management strategies of the value co-creation platform, involvement, curation, and empowerment, which would be the part of the group model-building process. A study case of an ongoing problem in Indonesia was presented to see how the GMB platform may be implemented in the real-world problem. Though it is still an ongoing process, we can see that by adapting the value co-creation platform as part of the GMB process, it is advantageous in defining what activities should be done by each actor (i.e., facilitator, modeler, stakeholder) in order to have a better policy recommendation in the part of policy making and policy development process.

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