DESIGNING VALUE CO-_CREATION PLATFORM IN TECHNOLOGY COMMERCIALIZATION CASE STUDY IN ITB

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Abstract
This paper explains about the process of designing value co-creation platform in technology commercialization in ITB. Technology is continuously improved by research and development process. From preliminary research it is found that the research is mostly conducted by the institute, but sometimes joint research can be conducted with companies. This research uses a qualitative approach with interview to twelve faculties in ITB and one institution (LPIK) to bridge communication between ITB and companies. The respondents are around fifty experts in ITB who develop research and patents. After conducting interviews, it is found that most of the research initially starts with the researcher point of view without considering market needs. Some researchers suggest that to capture market needs it is appropriate to create ecosystem to accommodate communication and knowledge sharing between researcher and companies (performed by LPIK). LPIK can be the enabler and moderator in the VCC platform. There are two proposed methods for the VCC platform design, first is to establish a focus group discussion and bridge researchers and companies to enable knowledge exchange. Second is to use ICT with LPIK ITB as host and repository to create a database storing system that can be accessed by the stakeholders.

Keywords: Value Co-Creation, Technology Commercialization

INTRODUCTION
Technology improved by research and development process has been done by institutes or companies. Basically the purpose of R&D process conducted by institutes and companies is to gain a new value or to improve an existing value. From preliminary research it is found that the research is mostly conducted by the institute in order to improve or discover a new value, but sometimes if the research can take a company interest, joint research can be conducted. In some cases when the research conducted by the institute is half way and been proposed
to company, many companies reject the proposal and ask for a new research with their point of interest. In other words institutes and company are creating their own values by themselves.

If institutes and companies can join together to create a new value derived from their discussion, then it could be categorized as value co-creation. From collaborative innovation – breakthroughs come from “group genius” not lone epiphanies. Innovations, since the renaissance have been dominantly generated by groups (Johnson, 2010). This does not deny the creativity of exceptional individuals, but beneath the surface of the claims of individuals lies the involvement of others. Co-creation can be a force for participation and democratization that does create meaning for all, rather than simply an alternative research technique or a way of creating value through co-opting the skills and creativity of individuals. This is what Magala (2009) calls the “postmodern pattern of sense making” where there is a transparent, open-ended flow of social communication built around the negotiation and renegotiation of meanings that leads to a networked, evolving social world. The implication for organizations is that co-creation ought to be viewed as a process that provides an opportunity for on-going interaction, where the organization is willing to share its world with external stakeholders and can generate in return the insight that can be derived from their engagement.

In order to prepare a value co-creation process between institutes and companies, then a value orchestration platform is used. According to Nakamura (2012) Value orchestration platform encourages customers and providers to interact with each other and to co-create new values often using information and communication technology (ICT). It is a three year research to maximize institutes research potential to reach market through commercialization. To achieve the best result in commercialization, the research conducted by institutes has to be close enough to the market needs, in other word it has to capture market needs. It could be a market research by institute or knowledge sharing with companies. And it is all conducted within the VCC platform that will be designed in this research.

**LITERATURE REVIEW**

Literature review for this research is divided into two major sections and provides a context for the study. First part will be the interactive planning. The second one will be value co-creation process.

**Interactive Planning**

Interactive planning uses a bottom-up approach to provide a platform to drive change. The strength of interactive planning lies to the ability to consider ongoing
changes and how these changes affect the environment and vice versa. Interactive planning methodology consists of five steps. These five steps will be described below (Ackoff. 2006):

1. Mess formulation

Mess formulation starts with systems and obstruction analysis, and then followed by developing reference projection and reference scenarios. In this step, problems, prospects, threats, and opportunities are identified. This step is a projection of the future which company would face if it did not do anything about current situation and if the environment continues in a predictable way. To project the future, three types of study are needed:
   • Systems analysis – this study gives detail about company (how it works, who and how it affects, and relationship with environment
   • Obstruction analysis – this study set out obstacles to company development
   • Preparation of reference projections – this study extrapolates company’s current performance to predict the future if company does not do anything

2. Ends planning

Ends planning’s concern is to specify the pursued ends (ideals, goals, and objectives). This step starts with “idealized design”, a design for company which stakeholders would replace the existing system if they have the authority. To prepare an idealized design, there are three steps:
   • Select a mission
   • Specify desired characteristics of the design – a list of desired characteristics that stakeholders agree is built into a system
   • Design the system – to set out how all the characteristics of idealized design can be achieved.

The steps mentioned above should be prepared for two situations, one constrained (with no changes on the system) and the other one unconstrained (with changes on the system). The purpose of idealized design is to obtain creativity from all stakeholders.

3. Means planning

In this step, policies and proposals are generated and examined with a view to decide if they have the capability to help in filling the gap between desired future and current future. Here, creativity plays an important role to bring the desired future into realities.
4. Resource planning

In resource planning step, there are four types of resources which should be considered:

- Inputs – materials, supplies, energy and services
- Facilities and equipment
- Personnel
- Money

5. Design of implementation and control

Implementation is achieved and continuously monitored to ensure that desired results achieved, outcome used as feedback into planning to enable learning and improvement.

Data from the interactive planning will be combining with the business model data, together the IP data and business model will support the value co-creation process with the appropriate data.

Value Co-Creation

Value Co-creation emerged due to the coincidence of several developments such as the adoption of internet, orientation towards services and experiences, an open approach to innovation, and the growth of social, collaboration and customized technologies (Chesbrough, 2006). Value co-creation has been practiced in business-to-business (B2B) context but it is not limited to B2B context only. It can be derived for B2C context. The idea of value co-creation focuses on how individuals can collaborate with each other to meet their needs for socialization and meaning making and how organizations can influence and use the insights from a position of equality than dominance. Value co-creation can be a force for participation and democratization which creates meaning for all. Magala (2009) calls this “postmodern pattern of sense making”, in which there is a transparent, open ended flow of social communication built around the negotiation and renegotiation of meanings that leads to a networked, evolving social world. Value co-creation should be viewed as a process that provides opportunity for interaction, where organization is willing to share its world with external stakeholders and in return can generate insight from the engagement.

In value co-creation process platform in service businesses, there are two layers. At the top layer of the value co-creation process, customers and providers interact with each other and both of them co-create new values. The bottom layer invites customers and providers to get on board. The platform facilitates and orchestrates new value co-creation by customers and providers, but the control of the process
lies entirely in the hands of providers, and sometimes customers. This platform is called value orchestration platform (Kijima). This platform can be seen below:

**Figure 1. Value Co-creation and Value Orchestration Platform (Kijima 2012)**

Value co-creation is an active, creative and social process based on collaboration between provider and customer to enhance organization’s knowledge-acquisition process by involving customer in the meaning and value creation. Generally there are four phases in value co-creation process, which are co-experience, co-development, co-elevation, and co-definition.

In co-experience phase, customers and providers may have little or no idea about the other’s capabilities and expectations. Instead of trying to reduce the gap between the needs, the provider and customer share an internal model to co-define a mutual understanding about the service.

In co-definition phase, the customer and provider may learn about each other’s preferences, capabilities, and expectations so that they may co-define and share a common internal model. Satisfaction for both sides can be achieved by the co-experience of the service and the co-definition of a shared internal model.

In co-elevation phase, it is relevant to relate the value co-creation process to the entities of the service system and also to the relationships among them. Co-elevation is a zigzag-shaped spiral process of customer expectations and provider abilities. Higher expectations of service by intelligent and literate individuals lead to higher-quality service and greater social values. High-quality service, in turn, increases customer expectations.

In co-development phase, the focus is on the co-innovation generated by simultaneous collaboration between provider and customer. In this phase, customers usually evaluate and assess the value and providers learn from customer responses.

Value co-creation process from the entire table above shows the similarity of value co-creation concept which is “value creation through collaboration process among the stakeholders”, for this process to be proceed, the key element for is trust among the stakeholders. First step for analyzing VCC is to conduct stakeholder analysis. After finish with the stakeholders analysis the second step is
to conduct interactive planning which is analyze the interaction among stakeholders. The third step is service analyze and design that included the business canvas and business blueprint of the provider and cluster analysis for the customer profile towards the product to complete the two sided analysis.

METHODS
Interactive planning uses a bottom-up approach to provide a platform to drive change. The strength of interactive planning lies to the ability to consider ongoing changes and how these changes affect the environment and vice versa. Interactive planning methodology consists of five steps. These five steps will be described below (Ackoff 2006):

Mess formulation
In this step researcher conduct interviews with several expert and technology inventor in ITB, the purpose of the interview is to gain knowledge about how currently technology commercialization process work in ITB and obstacles possibility in the process. And last predicts the future based on ITB current performance if ITB does nothing to improve the process.

Ends planning
In this step researcher collect data from interviewing the experts in LPIK (an organization establish to accelerate technology commercialization in ITB) about the ideal technology commercialization rate and absorption rate by industries.

Means planning
In this step researcher will gain data regarding the gaps between ideal and current condition through focus group discussion. In FGD ITB technology expert, inventor, LPIK and investor from industries are involved arranged by researcher. This FGD will use VCC approach in order to retrieve solution from participants.

Resource planning
In this step researcher will use result from FGD to manage resources to fill the gap between ideal condition and current condition.
Design of implementation and control
In this step researcher will design an evaluation and control method to ensure the continuity of the improvement.

FINDINGS
Mess Formulation
This research is using a qualitative approach with interview in data mining to twelve faculties in ITB and one institution (LPIK) which is the main purpose is to bridge a communication between ITB and companies. The respondents are around fifty experts in ITB which develop research and patents. It is found that almost 90% of the researches are developed independently by them without corresponding with the company and only proposed to company when the level of technology readiness reaches level seven or eight. This condition causes around 50% market absorption of the new value in the market. The other 50% of the value or new technology is still in ITB repository. In the interview, those experts claim that their product is researched with the purpose of academic value regardless the market will accept or not. After some product ends up in the repository and not absorbed by the market, some respondent suggest to create a collaboration research with the company from the early stage. Or it can be said that they would like to capture the market needs via the company as their market.

Ends Planning
In this step researcher conduct interview with LPIK staff in order to retrieve ideal goals of ITB technology commercialization.

Means Planning
The purpose of this research is to accommodate a mutual relationship between researcher in ITB and companies. In order to accommodate those needs, a platform is designed to become a value co-creation platform with LPIK as the enabler and moderator in the platform and researchers and companies as the stakeholders in the platform. It is planned for the future program, LPIK will host a focus group discussion among the stakeholders to capture the market needs and transform it as the basic research foundation (potential research). The FGD purpose is to host a knowledge sharing between researcher and company in order to gain new knowledge, researcher can gain knowledge about market needs and the company can gain knowledge about the researcher potential and research possibilities. The other mission of FGD is to find ways to fill in the gaps between
ideal and current condition. There is another option, to use ICT repository facility for online discussion.

**Resource Planning**

Judging from FGD result and conclusion, researcher will plan resource management to implement the robust action in order to fill in the gap between ideal and current condition of ITB technology commercialization.

**Design Of Implementation And Control**

In this step researcher will implement the feasible solution judging from available resource (derived from resource planning). The FGD will be conducted monthly for eight months to ensure the progress and evaluation each months.

**CONCLUSIONS**

After conducting interviews among the expert (researcher) in ITB, it is found that most of the research initially starts with the researcher point of view without considering any market needs, if a researcher thinks it was important then the research begin. However some of the product and patents end up in ITB repository without market absorption. This condition is due to the gap between the market needs and the product or patent produced by ITB. In short, the product or the patents does not solve any market needs. Some researchers suggest that in order to capture the market needs it is appropriate to create an ecosystem to accommodate a communication and knowledge sharing between researcher and companies. LPIK ITB established in 2010 is the core of communication between ITB and company, this institution can be the enabler and moderator in the VCC platform.

There are two proposed method for the VCC platform design, first is to establish a focus group discussion and bridge researchers and companies in structured discussion and enable knowledge exchange among the stakeholders. Second is using ICT with LPIK ITB as host and repository to create a database storing system that can be accessed by the stakeholders in knowledge exchange and knowledge sharing.

In order to implement solutions derived from FGD, resource management is required to priorities the most feasible solution to fill in the gap.

Evaluation process and control will be conducted monthly FGD and evaluation for eight months.
REFERENCES


