

REFRAMING PARTICIPATORY INNOVATION IN A COLLABORATION WITH RURAL CRAFTSPEOPLE

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ABSTRACT

Rural craftspeople are currently struggling to gain market because of the tight competition with modern craft industries. Although craftspeople have outstanding skills in treating materials, their limitations in producing innovative craft product resulted in the difficulties in gaining market. There were some top-down approach assistances for rural craftspeople, such as design assistance by putting designers as leaders for craftspeople. Designers usually asked craftspeople to follow designers' plan. Although this is often successful, it overlooks craftspeople's capacity to reveal their uniqueness as a starting point in producing innovative craft products. Concerning this fact, this research proposed participatory innovation approach to help craftspeople's revealing their unique characteristics as an inspiration to produce innovative products using a bottom-up approach by placing designer to follow craftspeople's concept. Furthermore, this research suggests that innovation in the rural crafts industry does not only relate to economic value but also social value.

INTRODUCTION

This paper sees that participatory innovation is a promising approach to be applied in fostering innovation of the rural craft industry in developing countries. However, participatory innovation approach proposed by Buur and Matthews (2008) is originated in the context of a utilitarian-based project in manufacturing company in a developed country.

A significant difference between those two contexts raised a question of what kind of adjustment is needed to apply participatory innovation for rural craft industry? And how the collaboration activities should be done to develop a non-utilitarian based product?

PARTICIPATORY INNOVATION FRAMEWORK

This section explains the potential of participatory innovation framework in fostering innovation of rural craft industries.

THE CONCEPT OF PARTICIPATORY INNOVATION

The concept of participatory innovation is integrating participatory design and design anthropology towards a market orientation (Buur and Matthews 2008). An anthropological approach will be valuable in providing a comprehensive understanding of users and context of use. Furthermore, the participatory design approach enables collaboration among stakeholders in the project to produce novel ideas of a product. Last, in order to gain commercial success towards a market, the adaptation of lead-user approach can be applied.

Participatory innovation project in Buur and Matthews (2008) was applied to manufacturing company aimed at developing a novel product for controlling a wastewater treatment process.

This paper sees that participatory innovation is also a promising approach to be applied in the context of the rural craft industry in developing countries. However, the context of the origin of participatory innovation

concept in a manufacturing company in a developed country is different from that of the rural craft industry in a developing country that produces jewellery or decorative products. There were significant differences between the manufacturing company and the rural craft context according to its purpose of innovation.

DESIGN CHALLENGES FOR RURAL ENTERPRISE

Crabtree and Chamberlain (2014) reported that scaling up was not necessarily a value for micro rural entrepreneurs. In their study, some rural entrepreneurs were "making money enough to live on". Similarly, Fillis (2002) found that there were some types of craftspeople like a "lifestyler" (who is not interested in expanding craft business), the idealist (who works as an artist and not interested in marketing or expanding business), the entrepreneur (who is keen to take a risk to expand business) and the late developer (who is an opportunist or follower in the business).

The different interest and passion among microentrepreneurs influence their enthusiasm in scaling up their business. In this case, business or economic profit is not necessarily their ultimate goal as long as they can enjoy their life. Consequently, providing assistance to accelerate business growth will not necessarily be effective, unless it fits the passion and interest of these entrepreneurs.

THE DIFFERENT PURPOSE OF PRODUCT MAKING

Risatti (2007 p.245) distinguished the purpose of man-made things into applied physical function and visual communicative function (Figure 1). Tools, machines and equipment are examples of products (with functional means) to ease human to produce other product such as containers, covers and supports. These last three objects are not intended to make other product (products with functional ends). On the opposite side, there are painting, sculpture and commercial arts to communicate concepts visually, rather than to ease human's work physically. In the middle of the diagram, there are products for adornment or decoration, such as jewellery, tattooing and stained glass.

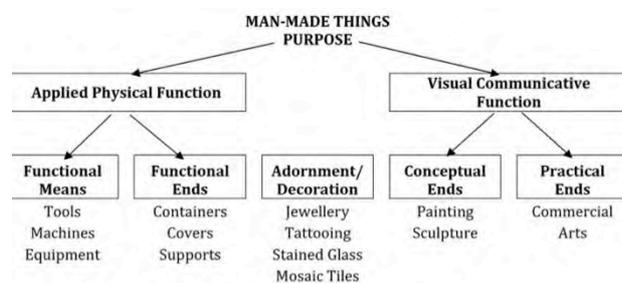


Figure 1: The diagram of man-made things purpose (Risatti, 2007 p.245).

Products for the purpose of adornment or decoration are made to fulfil hedonic value while products with the purpose of functional means are made to fulfil utilitarian value.

Definition of "utilitarian" according to Macmillan and Oxford Dictionaries is "designed to be useful rather than attractive". This definition is in line with the "utilitarian benefit" explained by Chitturi et.al (2008). Utilitarian value related to the functional, instrumental and practical benefit, while hedonic value refers to aesthetic, experiential and enjoyment related benefit (Chitturi, et.al 2008).

The purpose of participatory innovation in a manufacturing industry, such as proposed by Buur and Matthews (2008), is to enhance utilitarian value (practical benefit/functional means) of products. On the other hand, the purpose of participatory innovation in a rural craft industry is to enhance the hedonic value of products.

A hedonic value of craft with adornment / decorative purpose can be gained by many ways, not necessarily depends on user's or customer's need. A hedonic value is not necessarily needed, but it is desired.

There are two innovation strategies to develop hedonic-based products, either using market-driven innovation or identity-driven innovation (Zulaikha & Brereton 2011). A producer will act as a follower (of its competitors) in the market if he applies market-driven innovation strategy. This strategy depends heavily on fluctuating market demands, based on prices and updated products in the market with large quantities through extensive distribution chains.

The other innovation strategy is an identity-driven strategy. This strategy depends mainly on the designers and stylistic or aesthetical identities. Key success factors for this strategy are the strong identity (authenticity) and limited high-quality products, which can serve high margin benefits for producers. In this strategy, the producer does not necessarily follow the popular trends to fulfil customer's desires.

THE CASE STUDY

The case study of this research is glass bead craft industry located in Jombang Regency, East Java, Indonesia. Craftspeople treated waste glass into beads using simple technology, consisted of a self-modified stove for melting waste glass, shaping melting glass into glass sticks and forming glass stick into a bead. All works of shaping beads were done on fire (Figure 2).

This industry reached its peak in 2000s, when there were a thousand of villagers worked in the glass bead craft industry. Craftspeople's outstanding skills in treating glass into various forms and patterns of beads (Figure 3) caused this industry easily recognized by traders in Indonesia and overseas. Craftspeople got orders from Kalimantan (Borneo), Bali, Italy, Japan, Australia, England, US and many more.



Figure 2: A craft person was turning a glass stick into a bead.

However, the industry was shrinking rapidly. Only a decade after its peak, orders were decreased significantly; causing many craftspeople faced difficulties on surviving their business. By early 2010, there were only a hundred craftspeople still running the industry while the others were looking for other jobs.



Figure 3: Samples of Beads made by The Craftspeople.

DIFFICULTIES

The global economic crisis in 2007-2008, the passing trend of beads as interior ornaments or jewellery, the coming of cheaper imported beads, as well as craftspeople's limitations in developing design and managing business led to the decreasing numbers of craft industries. Craftspeople got difficulties not only in getting foreign but also local market. Local buyers preferred to buy machine-made imported beads than hand-made beads because they were cheaper, consistent in size and shape and even had a better appearance (i.e. sparkling bead) than the local hand-made beads. Local beads were expensive because of the rising price of material and craftworker's salaries.

Internally, the limited capability of human resources and tools, availability of material, and lower bargaining position in relation to the trader, designer and buyer worsened the situation. There was internal conflict among the craftspeople because of price competition, copying issue, headhunting craft-workers and social jealousy, which contributed to the complicated situation for the rural craft business development (Zulaikha, 2014 p.98-104). In addition, the craftspeople were in a weaker bargaining position in relation to both the traders and designers.

CRAFTSPEOPLE'S POSITION TO TRADERS

Craftspeople tended to approach the same trader of their fellow craftspeople. This situation caused the bargaining position of craftspeople to become lower to traders, as a trader had an option to choose the lowest price offered by some craftspeople. A few craftspeople were managed

to find new traders through online trading, but that line of business had also decreased.

The weak bargaining position of the craftspeople was related not only to pricing, but also to the highlighting of their existence. The identity of the makers was mostly unrevealed or even hidden. Mentioning the maker's name did not necessarily contribute to increasing product's value considering that craftspeople produced copied product (instead of the original product). Therefore, the story or design concept behind a bead is more important than the making process. For craftspeople, this anonymity was not an important issue as long as they got payment for their work.

CRAFTSPEOPLE'S POSITION TO DESIGNERS

As mentioned above, craftspeople copied popular products in the market. Design diversification was rarely developed. It is understandable considering that craftspeople had limited educational background, as well as design capabilities. Sources of design were gained from bead catalogues, magazine or other media. Besides, some craftspeople intentionally overproduced particular design ordered by a designer or trader, then bring them to market by themselves.

This situation led to market saturation. Because there were too many similar products in the market, it caused bead price to fall.

The coming of a designer to this industry is important for the reason that such collaboration between a designer and craftspeople will increase design capabilities of craftspeople to diversify products. Nevertheless, a direct relationship between craftspeople and designers in the industry was rare. Jewellery designers usually asked craftspeople to make products based on designers' idea. Collaboration between designer and craftspeople usually meant that the designer was the decision-maker for the designs and was, therefore, the author of the products. The craftspeople acted as manufacturers to serve the designer's decisions. The potency of the local craftspeople was exploited according to the designer's self-desire.

The designers also had a strong bargaining position and had more choices among the craftspeople and could select a craftsman to work with, according to designer's preference. Nevertheless, a designer selected craftspeople more carefully than a trader. To summarize, consumers recognised the designer or trader, but not the maker.

ASSISTANCE PROGRAM FOR CRAFTSPEOPLE

Despite those difficulties, there were opportunities to develop the industry. The glass-bead-making skills of the craftspeople were excellent, even exceptional and rare. The local government also paid attention to the industry by allocating annual funding in the form of assistance programs, such as providing information and support to join national, regional or international

exhibitions, providing website for online marketing, providing outlets, providing short-term trainings about design and management.

Short-term design training sessions were organised by the local government or local institutions, lasting from one to three days. The aim of the training was to diversify products. The trainers taught the craftspeople to imitate the trainer's samples, such as a bead bag or different types of accessories made from beads, step-by-step so that the craftspeople could follow the trainer's technique. By the end of the training, the craftspeople had gained insight into new techniques of assembling beads.

Despite new insight gained by the craftspeople after training, this program revealed some weaknesses. Firstly, trainers were usually outsiders who had never come to the site prior to the training. A trainer did not necessarily know the capacity or interest of each craft person who attended training. A lack of compatibility between the craftspeople's interest and the training topic resulted in the participant not learning the lessons from the training effectively. Secondly, training frequently raised a problem of inclusiveness in the community, because a few people who had a close relationship with the informant of a program (usually association caretakers) joined the training.

No attention was paid in those top-down training sessions to each craftsperson's individual characteristics. Innovation was also set aside because the craftspeople imitated the trainer's product, which could be easily found in the market.

METHOD: THE PARTICIPATORY INNOVATION APPROACH IN THE RURAL CRAFT INDUSTRY

The aim of this study is to develop a bottom-up model of a collaborative design project between craftspeople and designers. It explores how rural craftspeople can develop their craft design skill by involving the craftspeople fully in the decision-making processes, ranging from generating ideas to prototyping, rather than just at the end design process (as the maker). This study is grounded in their local context, respects craftspeople's skills, allows them to exercise self-determination, and respects the unique potential of each participant.

The study was conducted in two field studies. The first was done in 2011 and the second in 2012. The first study focused on understanding the context using anthropological approach, participatory approach and the attempt to create business opportunity following results of in the co-prototyping process. This fieldwork involved six craftspeople, who participated because they were invited by the head of the craftspeople's association in the area.

The second fieldwork focused on creating a change in a broader scope in the community. After the first study,

the researcher found that there was a tendency of grouping in the community because of some reasons, such as family relation, similarity of political view, neighbourhood. In each group, there were patrons (were called as community leaders) who were respected by the craftspeople. The head of the glass bead craftspeople's association was one of the community leaders, and he had the tendency of worked only with craftspeople in his group. It means that there were other community leaders who must be invited as well to enable the broader impact of this project. This second fieldwork aimed at seeking opportunities to enhance the industry in terms of social innovation. The researcher realized that there was a potential social conflict in the community because of the business difficulties.

ANTHROPOLOGICAL APPROACH

The research began with a contextual inquiry through interviews and observations in craftspeople's lives. The researcher lived in the site for a month and participated in the daily life of the craftspeople. Interviews were conducted with 17 craftspeople in the community consisting of craft-owners, craft-workers, material suppliers, bead store owners and an influential outsider. It was a semi-structured interview, took place in each craftsman's house. The researcher asked about current glass bead business situation, including the difficulties and possibilities to enhance the industry. Nevertheless, only 6 craftspeople continued to collaborate with designers in the participatory design session.

PARTICIPATORY DESIGN APPROACH

The participatory design project aims at understanding craftspeople's attitude towards craft business and finding ways to pursue innovation by developing new craft design while increasing the self-determination of the craftspeople. In this stage, the researcher facilitated craftspeople to collaborate with 4 design students, and 2 professional designers to develop new innovative craft products.

The participatory design project involved 6 craftspeople, 2 professional designers and 4 design students in design collaboration that started from generating ideas and progressed through to producing prototypes.

The participatory design session was done in groups and individually. Despite the benefits of working with a group such as sharing ideas or knowledge among the group members, not all of the craftspeople revealed their design potency. The free rider problem was found in a form of absence or passive contribution. A reluctance to share ideas because of different interests was also identified as an obstacle to working into a group. The syndrome of dominance in group work was also found. The suggestion of the head of the association was easily agreed with by others.

Based on the reflection, the researcher offered the craftspeople the option to work individually rather than collectively in a group. Each craftsman collaborated

with 2 design students. The individual design experiment consisted of four main steps: initial prototyping, design selection, design evaluation, and design refinement.

Unlike the previous training program between the craftspeople and designers, in this collaboration the craftspeople took the decisions of the design concept. The design students mainly assisted the craftspeople in providing design ideas and visualising the design ideas, rather than directing the final design.

An example of the collaboration was between MK and design students. MK was among rare craftspeople in the area, who had an ability to make a big bead. Making a big bead is difficult because it needs long hours of treating bead with fire continuously. The process must be done carefully. Otherwise, the bead will crack easily. The bigger the bead is, the easier to crack.

At first, MK and design students saw any possibilities to create a big size bead. Later, MK decided to make a pen holder with a pattern on it. He made it three hours with fire continuously in his workshop. Design students did not involve much in this making process.



Figure 4: Big bead made by MK. They were first intended to be pen holders.

TOWARDS A MARKET ORIENTATION

The intervention of professional designers was needed to enhance the marketability of design based on identity-driven innovation strategy. Nevertheless, such ability needed much experience. Therefore, in this case, the design students were supported by the professional designers.

The involvement of professional designers in the collaboration was minimal, only by giving feedback during a day of the evaluation session. Despite the minimum involvement of the professional designers, their views of the products' marketability increased the quality of the design.

For example, in the case of a pen holder made by MK, the professional designer saw that the pattern was attractive and highly potential to be a success in the market. However, the proportion and ergonomics of the product was poor to be a pen holder. Besides, considering the difficult making process, the cost production must be very high. Therefore, the professional designer suggested to making an exclusive

interior element, such as a candleholder, instead of a pen holder.



Figure 5: A professional designer discussed possibilities of enhancing design of the bead



Figure 6: Candleholders as results of co-prototyping process

By the end of the project, there were product diversifications. Previously, waste glass bead was made into accessories, but in this project waste glass was treated became various products such as napkin ring, bonsai, ornaments for mirror frame, puppet, candleholder, artificial plant. Those products were sold to market through craftspeople's shop and temporary exhibition.

Not all products were sold successfully in the market, mainly because it needs a better quality of product finishing. Napkin ring was sold 5000 pieces in Bali while 3 prototypes of bonsai bead were sold out during temporary exhibitions.

TOWARDS A SOCIAL INNOVATION

Despite the success of producing innovative products, the first fieldwork did not involve the broader community. The researcher attempted to reach a broader community in the village after realizing that the first fieldwork only involving craftspeople in the circle of the head of the bead association. The researcher sought that the collaborative design learning process in the first fieldwork had a potential to be implemented in the whole community in the village.

For that purpose, the researcher approached all community leaders in the village, then organized a regular community meeting weekly in two months. The project was first announced in a community event in the village. The researcher was supported by the village head in announcing the project. The project must be as inclusive as possible. Therefore the researcher must

ensure that all craftspeople got the information and invited to participate in the project voluntarily.

There were discussions among craftspeople and the researcher during community meeting, ranging from problems to ideas in enhancing the industry. Eighteen craftspeople (including three community leaders) joined community meeting, although only ten of them who actively involved until the end of the project. Three of them were craftspeople who also participated in the previous project.

There were reflections of craftspeople's resources, potencies, strengths and different capabilities of each craftsman. Interestingly, craftspeople did not enthusiastic in developing a product like the first fieldwork project. Instead, they were interested in creating a community brand and making a promotion project. In the end, craftspeople and design students agreed to organize a glass-bead-making workshop to high schools in 3 regencies surrounding the village.

The glass-bead-making workshop was intended to promote the industry to local market. High school was chosen as a target of the workshop because high school students were considered as potential agents to spread the information about glass bead products to their relatives, friends and network.

Craftspeople showed the glass-bead-making process to high school students. Before that, there was a short presentation about the history of the industry and some examples of expensive antique beads. Craftspeople explained the reasons of the expensiveness. Next, craftspeople assisted students to make glass beads with fire. High school students expressed their appreciation of craftspeople's skill in making beads and could understand why the local glass-bead price was a bit expensive after knowing how difficult it made.



Figure 7: Glass-bead-making workshop to high school

Teachers expressed that they were interested in having the glass-bead-making workshop as regular program for their schools, because it gave insight about treating waste glass into craft, entrepreneurship, appreciation of cultural heritage (by the antique bead presentation), and art experience.

On the other hand, craftspeople expressed their enthusiasm for continuing this workshop into a broader area in the province. They confessed that some design students came to craftspeople's home after the workshop to know in detail about the process and bought some local beads.

RESULTS

THE REFLECTION-IN-ACTION PROCESS

Giving the design concept decision to the craftspeople (rather than being directed by designers) enabled the emergence of new and unpredictable designs, such as the design of the bead bonsai created by a craft person (Figure 7).



Figure 7: An experiment of treating material from glass stick. Began from simple twisting (left) into extreme twisting treatment using different colors of glass stick (middle). The final result is a bonsai (right).

This achievement (of making bonsai glass bead) did not necessarily come through sketching. This experiment was done in order to answer the question of the design students who asked whether the glass stick could be treated differently instead of just twisting it became a metal stick. The experiment was developed further, by twisting different colours of glass sticks. Initially, there was no intention to make a bonsai. The idea of making a bonsai came out later after a discussion between the design students and the craft person. They reflected on the appearance of the materials, then the craft person decided to treat the material further into the shape of a bonsai. The design process was a result of the "reflection-in-action" (Schon, 1983) process.

THE EXPERIENTIAL LEARNING PROCESS

The second fieldwork of community meeting and glass-bead-making workshop enabled experiential learning not only for craftspeople, but also for design students and high school students.

Craftspeople learnt about making a brand and collaborating with design students in promote the industry. High school students learnt about making bead, while design students learnt not only about how to making bead but also how to deal with different interests (and capabilities) of each craftsman and collaborate with them in making a promotion project.

DISCUSSION

Developing hedonic-based products, such as craft, requires reflection on aesthetic expression as its innovation; while utilitarian-based product focuses on technological innovation. The differences have an impact on how the collaborative model should be

performed when using a participatory innovation approach.

The aesthetic expression of craft products can be gained from a distinct and strong characteristic of the creator.

In the case of rural craft product, the creator is a rural craftsman, who currently is less recognized or appreciated despite his potential unique characteristics.

The empowerment issue in the participatory innovation project with rural craftspeople is significantly different from that of manufacturing company. Users or consumers (buyers of craftspeople's product) in the rural craftspeople's context do not need to be empowered. The craftspeople as producers, conversely, need to be empowered so that they can explore their own design capability, rather than just a maker of design created by a professional designer or trader.

In addition, craftspeople deserve an utmost appreciation for their creation. Therefore, in participatory innovation for a rural craft industry, its focus on 'users' is replaced by 'creators'.

PARTICIPATORY INNOVATION TOWARDS SOCIAL ORIENTATION

This collaborative design learning and promotion project gave us insight that assisting rural crafts industry did not necessarily focus on design development and management organisation. Collaborative learning in making a hedonic product in the first study was intended as a trial action to enhance the craft industry through design development. When the researcher tried to implement the same action in the broader community in the second fieldwork, I found that only one or two craftspeople who were interested in developing a design. Different interest and capability of each craftsman were the cause of reluctance in developing bead design. Some craftspeople were good at making beads, the others at running business. Only a few of craftspeople who keened to generate ideas in developing design. Therefore, it could not be continued as a community project as it was not supported by other craftspeople. Instead, craftspeople were interested in promoting the industry to potential local market through glass-bead-making workshops in high schools. But in the glass-bead-making workshop, craftspeople worked together according to each capability. Skilful craftspeople demonstrated his ability in making complicated and big bead, while craftspeople with less making skill, but have a good communication skill, succeeded the workshop by becoming a presenter, while the others assisted students to assemble beads or sold beads.

This study shows that participatory innovation should not merely address towards market orientation or business goal. Although the glass-bead-making workshop has a potential economic value for craftspeople, the profit was not gained directly. Instead, the promotion project enabled a closer relationship among craftspeople who previously rarely worked

together because they came from different "group". As mentioned above, there were groups in the community caused by proximities (such as neighborhood, similar political views or family relationship).

In this rural craftspeople's community, social value was as important as economic value. The better social value would lead the community into the better action for collaboration, and then the enhancement of the industry.

CONCLUSION

Participatory innovation has good prospects to be implemented in rural craft industry; however, reframing participatory innovation approach from its origin in utilitarian-based project is needed, in terms of refining who must be empowered and how co-design process should be conducted toward a market orientation and social innovation.

Design anthropology approach in rural craft industry is conducted to understand the context of craftspeople. Participatory design approach seeks craftspeople's strength and uniqueness as a starting point to develop innovative craft product toward a market orientation by involving professional designers. Professional designers' suggestion is needed to fit with craft trends and other marketable aspects. However, in this scheme, professional designers contribution were built upon craftspeople's initial idea.

In this study, glass bead was made for a hedonic purpose, which Risatti (2007) called as an adornment or decoration. The story behind a product, such as how difficult it made and meaning of the pattern, must be revealed to uncover its value. The acknowledgment of the glass bead value by high school students resulted in appreciation to the craftspeople and the product. The participatory innovation went beyond design and profit taking, and it also enhanced a social relationship. The project enabled collaboration among craftspeople and built a network between craftspeople and the local community.

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