

A PROPOSED MODEL OF VALUE CO-CREATION THROUGH MULTI-STAKEHOLDER COLLABORATION IN DOMESTIC PRODUCT DEVELOPMENT

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Abstract. This study illustrates the collaborative value co-creation process that involves multi-stakeholders in developing domestic products and services design in Indonesia. Although the value co-creation process performed effectively, the new product is still experiencing obstacles in term of commercialization and sustainability. The purpose of this research is to construct a model to encourage the process of value co-creation in the commercialization phase of domestic products. The qualitative method with a single case study approach is conducted in this research. Data collected with in-depth interviews, observations and archival. The informants are representatives of stakeholders that interact and participate in the IKKON program. Data analyzed with DART model (Dialogue, Access, Risk Assessment and Transparency) to examine the process of value co-creation in the IKKON program. This approach constructs an analysis that involves stakeholder's experience during the value co-creation process as a basis for innovation. The results showed with collaboration; stakeholders could learn from each other to understand the needs. The collaboration with multi-stakeholder will increase the values of the product by combining local and public needs. The finding proposed a collaborative model to optimizing domestic product in terms of commercialization. This research enlarges a practical perspective in managing value co-creation and decision making.

Keywords: value co-creation, DART model, new product development, commercialization, multi-stakeholder collaboration, creative economy, IKKON Indonesia.

JEL Classification: L1, M11, Z10.

Introduction

Indonesia has thousands of potential local resources to support the creative economy in rural areas. Through the creative economy, the potency of local resources can be transformed on shape and function to support economic value (Simatupang et al., 2012). However, the Indonesian Government has not optimally developed potential local resources to support the regional economy, so it is difficult for them to attract trader, tourist and investor. Strengthening the economic potential need collaboration to link resources, culture and heritage (Mustajib & Ilhamsah, 2016). Many regions in Indonesia still faced an issue in developing competitive advantage on their domestic products and service, most of them struggling in sustainability (Geotimes, 2017). Therefore, the Indonesia Government must explore potential economic resources to gain competitive advantages in the rural area. One way

is with implementing an innovative program that utilizes various local potentials in each region that have benefits to sustain the creative economic sector.

One of the inclusive innovation programs to support economic in the rural area is IKKON (*Innovation and Creativity through Archipelago Collaboration*), which held by BEKRAF (Indonesia Creative Economy Agency). The objective of the program utilizes potential local resources in each region that have benefits to support creative economic sector. The program involves collaboration between stakeholders such as local Government, designer, creative enterprise and local actors in the rural area. However, the program still faces challenges related to capital access, commercialization and managing collaboration between stakeholders (Wibowo, 2018). Most of the creative enterprise that developing domestic product realize that commercialization still faced a challenge (IKKON Report, 2017). It also reflects the program has not been

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able to improve economic in rural areas. The most critical in the new product development (NPD) process is the commercialization phase. The commercialization is a strategy on how the consumer can accept the product and service. Kosaka et al. (2012) stated “value in use concept, and it emphasizes the importance of the relationship between the service itself and its situation”. Most of the product failed in the market because the commercialization phase not yet integrated between “value in use” and customer needs. Therefore, value co-creation process with multi-stakeholder is fundamental in the NPD process.

The value co-creation defined as corporation’s processes for co-creating goods, services and experiences in close cooperation with experienced and creative consumers (Romero & Molina, 2011). The critical aspect of value co-creation is the co-creator who will be continuously involved in developing new products and products design (Kembaren et al., 2014). Therefore, the program needs support and collaboration from all of the stakeholders to optimize the local resources and create more values or benefits.

This paper aims to construct a model for collaborative value co-creation in domestic products design that encourage commercialization. This study examines the value co-creation process on new product development (NPD) in IKKON program. The results of this study are expected to optimize the commercialization phase of local product in Indonesia. The novel of this study provides a model that can help the practitioner or policymaker to define an effective strategy in terms of commercialization and sustainability.

This research consists of four parts. In the beginning, the researcher reviews the literature from previous research. They are explaining the concept of value co-creation on service system, new product development, DART model and case description. The next part, the authors are describing the research method and data collection applied in this study. The third part is the interpretation of data analysis and discussion. The last part is the conclusion and recommendation of this research.

1. Literature review

1.1. Value co-creation on service system

This research analyzes value co-creation in service-dominant logic (S-D logic). Value co-creation in S-D logic concept is known as the processes and activities that underlie resource integration and incorporate different actor roles in the service ecosystem (Lusch & Nambisan, 2015). S-D logic combines value creation process and customer output (Gummerus, 2013). The service-dominant logic regards customers as a creator of value. It always co-created and created by customers (Grönroos, 2011; Novani & Kijima, 2012). Consequently, the companies need to consider strategies that involved customers to understand the role of company in value creation.

In the other hand, Grönroos (2011) describe service perspective on business (service logic) is not that customers always as co-creators of value, but rather that under certain circumstances the service provider gets opportunities to co-create value together with its customers. Value co-creation is about *joint* creation of value by the provider and the customer. Co-creation is the joint, collaborative, concurrent, peer-like process of producing new value, both materially and symbolically (Galvagno & Dalli, 2014). “The locus of value creation is the value considered to be co-created among various actors within the networked market” (Nenonen & Storbacka, 2010). Therefore, in the era of open innovation, companies usually allowing the customer to co-construct the service experience to suit their context because customer value includes not only economic value but also value linked to ideal values (Novani et al., 2014).

1.2. New Product Development (NPD)

During the process of co-creation, the provider mostly has a deep involvement in defining and solving the problem (Grönroos, 2011). In new product development (NPD) process, the company involved stakeholders in participating actively. Value co-creation means there is a joint creation between the company and its customers. Prahalad and Ramaswamy (2004b) argue that if the company has carried out this co-creation process well, then the value of the product will be better than the products produced through ordinary product development. Therefore, the creative process is needed to develop product innovation (Zemlickienė & Maditinos, 2012).

In general, the process of developing a new product is carried out through various stages in which it is tightly controlled until the decision of the new product to be launched or not. The stages of new product development are as follows: (1) Discovery (idea generation and screening). This stage aims to get ideas that are relevant to the product to be developed. (2) Development (Concept and Product Testing). This stage seeks to test alternative product concepts to consumers to find out the level of consumer acceptance. (3) Commercialization (Product Launch and evaluation). After the company decides on the product to be launched, this stage is the most crucial because at this stage the company will begin to introduce and communicate the product to the market (Kotler, 2003; Hoyer et al., 2010). According to Allen (2003) in Zemlickienė and Maditinos (2012) NPD process, the process of innovation and the commercialization process of research are interrelated and not linear. Zemlickienė and Maditinos (2012) discussed marketing strategy formulation for the NPD. In comparison, Bracio and Szarucki (2019) addressed the commercialization of innovation through internationalization.

Aarikka-Stenroos and Jaakkola (2012) states the term commercialization refers to the development of a product concept, its successful launch, and its interactions with potential buyers. Whereas, Zemlickienė and Maditinos

(2012) stated the effectiveness in the commercialization phase arises by the integration between R&D, marketing and manufacturing departments. NPD process is the creation of original products, existing product improvement or modification new brands involved scientific research department's (Kotler, 2003). In community-based companies, sharing knowledge and engaging in collaborative relationships with community partners is essential for developing and commercializing new products and services (Snow et al., 2011). While, in general, companies that innovate need particular commercialization competencies in terms of accessing, mobilizing, and managing relational resources (Aarikka-Stenroos & Jaakkola, 2012). Therefore, in the commercialization phase, integration between resources and interaction between stakeholders are critical.

1.3. The DART model

The DART model is one of the earliest models that highlight the concept of value co-creation and often used in general, to consider the value co-creation in developing service or product (Ahmad & Mukhtar, 2017). There are four elements of action in DART models (Figure 1) such as comprise of several activities; dialogue, access, risk assessment and transparency (Prahalad & Ramaswamy, 2004a; Mazur & Zaborek, 2014; Donato et al., 2017). While Solakis et al. (2017) argue that value co-creation and DART model mainly are based on a dialogical process between equal partners, companies should enable themselves to become a better entity who was engaging a collaborative model (Alamanda et al., 2015). With the collaboration, it expected that involving parties would benefit more than they do it by themselves. The market dimension of choice is integral to the value co-creation process. The definition of markets used viewed as a set of conversations between the customer and the firm (Prahalad & Ramaswamy, 2004a). Building market required co-creation experiences of unique value in the context of an individual and specific moment. According to them, the DART model may not produce compelling experiences in co-creation. DART model need to check the other dimensions of choices in consumer-providers interaction such as interaction across, options, accesses and price experience (Prahalad & Ramaswamy, 2004a; Alamanda et al., 2015).

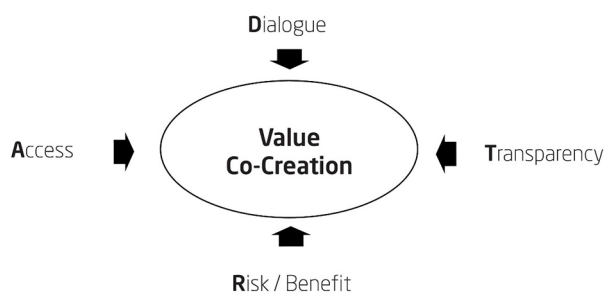


Figure 1. Value co-creation DART model (Donato et al., 2017)

1.4. Case description: IKKON (Innovation and Creativity through Archipelago Collaboration)

This study is focusing on unique cases of IKKON (**Innovation and Creativity through Archipelago Collaboration**) program that held by Indonesia Creative Economy Agency (BEKRAF). BEKRAF continues to make innovative efforts to increase Indonesian creative economy industry performances. BEKRAF stated the contribution of the creative economy industry on national GDP is IDR 1.12 Quadrillion (The Jakarta Post, 2018). IKKON is one of the innovative and creative collaborations between local stakeholders. Technically speaking, IKKON is a place of assembly between stakeholders in processing value co-creation. The IKKON Program develops a new design of domestic product and service to increase the benefits of the product and economic values based on local resources (IKKON, 2019a). The functions are to collaborate, create value and introduce innovation in society. The IKKON program aims to develop a good quality and marketable innovative economic products from the regions so that they can contribute positively to support local community welfare.

The IKKON program selected regions in Indonesia to encourage and help develop potential local resources to support the creative economy in areas. During 2016 until 2018, the program has reached 15 districts/cities in the past three years, with approximately 3000 local creative actors, and more than 200 participants. The IKKON program supports co-creation and co-design of the creative-domestic product based on local resources. The professional team implement live in concept so they can interact with local communities to explore the creative potential of the city (IKKON Report, 2017). The process of collaboration between IKKON team and local actors will produce innovations towards creative products from the area (IKKON, 2019b). Nevertheless, the success of the program still needs to measure quantitatively related to the social and economic impact. The socio-economic impact can be seen from the positive changes that exist in the community such as the emergence of broader business opportunities for the community, employment and the contribution of the program to regional income (Wibowo, 2018).

2. Research method

2.1. Research design

This research used a qualitative method with a single case study approach. The qualitative case study is a type of research that explore information in-depth to give a comprehensive view of the context (Yin, 2013; Gustafsson, 2017). The qualitative study intends to understand the phenomenon that is experienced by the subject such as behaviour, perceptions, motivations, actions, etc. (Creswell, 2013). The case study approach is carried out by focusing on an intensive and detailed case so that the results can describe the context comprehensively (Yin, 2013; Aldianto et al., 2020). "A single case study makes the writer have a deeper understanding of the exploring

subject and richly can describe the existence phenomenon (Gustafsson, 2017)”. Therefore, we believe that the case study method is capable of understanding the context of a multi-stakeholder value co-creation process that initiates by IKKON.

2.2. Data collection

This study focuses on the case of IKKON in Indonesia. The IKKON program is one of the projects which included in 18 rural areas in Indonesia. Primary data collected through an in-depth interview (IDI) with IKKON stakeholders as interviewees. Further observation was carried out by directly observing processes and relevant documents. This research also used secondary data from the previous study, video documentary and IKKON program report 2016–2018. Key informants were chosen because they were considered to have in-depth knowledge and understanding of the case being studied (Aldianto et al., 2020). There are six key informants participated in this research. Information from these sources enabled us to re-examine data and improve consistency and reliability. The profile of the informants is shown in Table 1. Referring to the table, the majority of informants are stakeholders who have a role in succeeding IKKON program. The results of the interview will continue to data analysis.

Table 1. Informant profiles

Informant Code	Initial Name	Gender	Position of Informant
1	ARB	M	Deputy Research, Education & Development-BEKRAF
2	PS	F	Director-Creative Economy Education-BEKRAF-IKKON
3	IM	M	Team IKKON-BEKRAF
4	DD	F	Expert-Business Development- IKKON
5	SRD	F	Designer
6	ENS	F	Creative MSME
7	GA	F	Expert-Creative Economy Research
8	RN	M	Community

2.3. Data analysis

The section applying three-step of analysis, the first researcher will analyze the dimension of choice on the existing model and IKKON service system on developing domestic product and service. Service science perspective is applied to examine the interaction process and the changes (Novani et al., 2015; Alamanda et al., 2015). The second step, researcher examine the value co-creation process on new product development (NPD) in terms of innovation using DART Model. The concept of co-creation using DART often presented with qualitative methods (Mazur & Zaborek, 2014). The last step is illustrating the value co-creation process based on co-experience between stakeholders during IKKON program. The finding develops a conceptual model based on data triangulation – the triangulation used as a tool for analyzing and summarizing the results from data gathered from the interview. The triangulation process will determine the conclusion to fulfil the objectives of this study. The triangulation also used to validate the conceptual model proposed, generated historical report and expert confirmation.

3. Results and discussion

3.1. The dimension of choice on IKKON service system

The current value co-creation value on product and service design process involves creative actors and local stakeholders who are; local MSME, communities, crafter, suppliers. Figure 2 showed the interaction model between creative local MSME with their supplier and crafter (Figure 2), product and service design process developed from local communities that depend on the crafter, natural resources and supplier. Still, the customer does not have access to involved in the product development process. Snow et al. (2011) stated “a collaborative community approach is appropriate for product development and commercialization offerings in a complex environment. The most successful companies are those who learn how to adapt to their networks and form new values”.

While Figure 3 proposes the collaborative interaction on value co-creation process between stakeholders

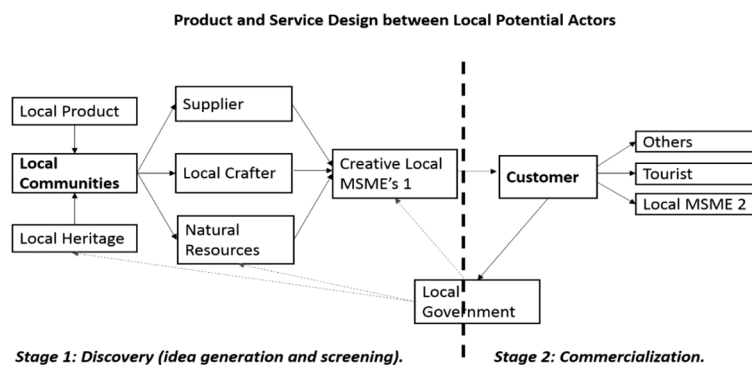


Figure 2. The existing model on product and service design

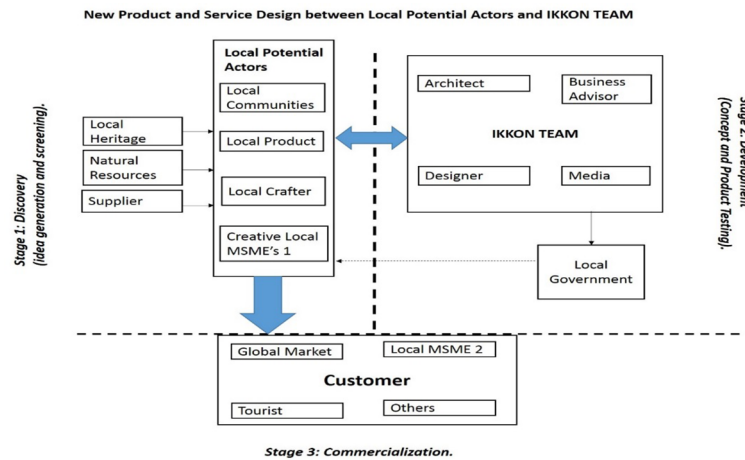


Figure 3. The new model on product and service design

towards innovative product and service. Innovation is proven by structural changes, which are expressed in creative ways by the actors. They are involved in creating value (Edvardsson & Tronvoll, 2013). The collaboration facilitates by IKKON to support communication requires multi-stakeholders. There are two main benefits to making collaboration with the community. First, the community provides a setting for developing general knowledge and building trust. Second, community size, and multilateral support among actors, enables the mobilization of various resources needed and is likely to increase the creativity and productivity of companies (Snow et al., 2011). IKKON team provide access for local actors to collaborate with the professional team on the creative process such as architect, designer, business advisor and media. As for the business partners, IKKON will utilize access between

local potential actors and customer. The collaboration will capture the possible local resources in the area and customer needs and expectations. Prahalad and Ramaswamy (2004a) reveals that the customer wants to interact with the provider regarding the product and access.

3.2. DART model analysis

The researcher examine the information from interview and secondary data to describe value co-creation process on the domestic product development referring to NPD. The DART model is considered to be an important step forward and a valuable attempt to indicate the range of organization' capabilities necessary to effectively work with users (Mazur & Zaborek, 2014). Table 2, 3 and 4 present the comparison results from the collaborative value co-creation process ere and since the IKKON program.

Table 2. New value co-creation process on discovery phase

Factors	Existing model	New Value Co-Creation Process
Dialogue	<ul style="list-style-type: none"> - Local actors/LA (MSME's, Crafter, Local Communities) communicate internally on developing ideas in product and design process. During the process, dialogue dominantly for product cost/budget. - Consumer and Local Creative SME's dialogue informally and have no contribution in developing ideas. 	<ul style="list-style-type: none"> - Local Actors (MSME's, Crafter, Local Communities) communicate with internal and external stakeholders in developing ideas during product development process. The dialogue dominantly regarding local values towards design. - IKKON team live in and communicate face to face with local actors, the dialogue using on-site feedback and real-time conversation to discover customer needs. - IKKON Team actively determines the needs and expectation regarding LA preferences.
Access	<ul style="list-style-type: none"> - LA has limited access to knowledge, creativity and design process. - Customer doesn't have access to involved in developing idea. - Local government facilitated learning process for generating ideas. 	<ul style="list-style-type: none"> - IKKON team facilitated access to generate idea between LA and Local Government. - IKKON was developing access to manage idea development on NPD process. LA focused on developing product ideas and service design using new access which provide by IKKON. - The idea represented customer needs, and the IKKON Team elaborate the concept with technology.
Risk Assessment	<ul style="list-style-type: none"> - LA intent to avoid the risk - LA used supplier product that can be sale cheaper than the local product. - Customer avoids risk in using product and services as long as it's cheap. 	<ul style="list-style-type: none"> - LA take a risk by integrating local resources and cultural heritage in developing new product and service. - IKKON team implemented risk assessment which to promote a domestic product. - IKKON team managing the risk efficiently by face to face interaction and live in closed with local actors. - We are developing a new product and service design that integrate with local resources.

End of Table 2

Factors	Existing model	New Value Co-Creation Process
Trans- parency	<ul style="list-style-type: none"> – LA don't have available and transparent information about how to develop new ideas. – There is no feedback from customer regarding product and services. 	<ul style="list-style-type: none"> – IKKON providing the information availability and clarity towards idea creation for the customer to support local product. – LA was delivering the best and accurate information regarding their idea to support domestic product and service development.

Table 3. New value co-creation process on development phase

Factors	Existing model	New Value Co-Creation Process
Dialogue	<ul style="list-style-type: none"> – LA communicates with supplier during product development process. – Supplier used low quality material to decrease the production cost. 	<ul style="list-style-type: none"> – LA and IKKON Team sit in together (face to face) in product development. – IKKON Team guarantee that LA contribute and interact in developing product related to traditional knowledge and local resources. – IKKON team accommodate the new product related to customer needs.
Access	<ul style="list-style-type: none"> – LA has a lot of access to using local resources in the area. – LA has minimum access to digital technology. – LA orders the production material in the outside area (high cost). – LA have no access to local government benefit and policy. 	<ul style="list-style-type: none"> – IKKON team facilitated access to developing a product, including technology. – IKKON was developing access to the customer to involve in the production process. – LA focused on developing product and service related to new trend and technology.
Risk Assessment	<ul style="list-style-type: none"> – LA intent to avoid risk the process of innovation development product. – LA used cheap supplier to produce the product and easy. – LA not maximum focusing on cultural identity on their area. 	<ul style="list-style-type: none"> – LA and IKKON Team take a risk in developing product & service quality based on natural resources and cultural heritage. – IKKON team and LA managing the risk efficiently on developing product and services. – IKKON Team develops human resources to improve handcrafter skill and knowledge about product development and promotion.
Trans- parency	<ul style="list-style-type: none"> – LA doesn't have available and transparent information about the product development process. – Supplier & Government did not involve in the production process. 	<ul style="list-style-type: none"> – IKKON was providing information availability and clarity in the production process. – LA was delivering the best and accurate information regarding their product development process.

3.2.1. Discovery phase (idea generation and screening)

At the discovery phase on NPD (Table 2), the ideation phase through the commercialization phase has its challenges (Kotler, 2003); therefore, the understanding of services system is vital (Novani et al., 2015). The co-experiences facilitated them to explore the design process about product and service-based that already exists. The purposes are to map their existences services system in the production process. Informant (I3) stated the provider, which is IKKON team, need to understand the local actors. In contrast, local actors need to understand the goals of services to develop product and service design. The design acts as a “social agent” and explains various practices of people’s daily lives (Sudhiastiningsih, 2019). Informant (I5) as designer confirmed “The idea of creating a product develops from social problems. The inspiration for the new design comes from society itself.” There are six aspects in potential and risk assessment on IKKON programs such as culture, human resources, natural resources, social, economy, and infrastructure. All of the points need to fill the requirement to continue in the design process. In this phase, the extensive collaboration and interaction

happened between local actors and professional team (I4 & I5). The dialogue consistently to explore local values as competitive advantages for product development. The output from this phase increases understanding of the roles played and resources contributed by local actors and professional team to co-create value.

3.2.2. Development phase (concept and product testing)

At the development phase, local actors and professional team is the main factor that needs to involve to design process because the development of the product is increase based on values that constructed in the discovery phase. While the ideals of product development based on customer preferences and needs (Prahald & Ramaswamy, 2004a; Novani et al., 2015). Therefore, the professional team and local people need to understand the customer needs and expectation regarding the innovative domestic product. Table 3 shows that in the phase of development, IKKON initiates the forum for conversation and discussion to know better local potential actors preferences and also customer preferences. The goal is the provider (local

actor and professional team) have a new perception of the definition of a unique design. Therefore, the trust between them made. In this process, local actors and professional team developing innovation in product and service design together. The other goals of developing product and services in collaboration are related to integrating culture and heritage as an identity of a new product. As we know, Indonesia has a lot of heritage and ethnicity that can use as a competitive advantage or uniqueness. For examples, the IKKON program develops innovation in the new motif of Batik Lasem. While, in *Ngada*, East Nusa Tenggara, the area already has excellent potential for tourism (Sudhiastiningsih, 2019). Therefore, the output from this phase, the feasibility of new design becoming a priority. The challenges are how to transform traditional product acceptable and unify with the modern aspect.

Human resources become an essential aspect in value co-creation process on product and service design because it is related to creativity management that produced by handcrafter and local MSME. IKKON program empowers local communities by developing knowledge for business management. Informant (I6) stated “In the local area, knowledge and skill development supposed accommodated by the local government. But, in somehow the training not specific fulfilled local actors need.” While in this phase accommodates knowledge transfer between potential local actors and professional team. Informant (I8) mention “I learn about new techniques in the production process. Without the program, I will not know about the information about how to make the product more beautiful like this.” The statement supported Snow et al. (2011) “a designed community of firms sharing knowledge and engaging in collaborative relationships with community

partners to develop and commercialize new products and services. The other factor that influences the success of the program is the infrastructure that facilitated by the local government. Informant (I7) as creative economy expert suggests “The challenges is how to accommodate the interaction between local actors and government. Also, how to merge and create a mutual interest between stakeholders related to domestic product sustainability. Most of the new domestic product in IKKON program has a unique and innovative design, but the information about the product is minimal for continuity. Therefore, the next paragraphs discuss more regarding the value co-creation on the commercialization phase.

3.2.3. The commercialization phase (product launch and evaluation)

In the commercialization phase (Table 4), the creative team take apart in the launch and promote the new product and service design to exhibitions. The commercialization phase of IKKON is focusing on the local exhibition. The exhibition used as a mode to inspire the audience how local sources can be elaborated into quality products and economic value. The goal is to expand the market and create a business partner. The exhibits held in national and international and the new local product and services have great appreciation from the audiences. But commercialization is not just about the exhibition.

In the NPD process, the phase of commercialization is the most crucial challenge faced by all companies (Bracio & Szarucki, 2019). The term commercialization is related to marketing strategies that focus on sales. In comparison, the data stated that the new design of IKKON product has positive vibes from the audience at launch. Still, the

Table 4. New value co-creation process on commercialization phase

Factors	Existing model	New Value Co-Creation Process
Dialogue	<ul style="list-style-type: none"> - LA and consumers have direct communicated (face to face) in sales transaction on the spot. 	<ul style="list-style-type: none"> - LA and IKKON Team communicate intensely in planning promotion strategy and launching new product. - IKKON team communicate with media to introduce the new local creative product. - IKKON Team develops an organization to promote an innovative domestic product.
Access	<ul style="list-style-type: none"> - Commercialization process focusing on sales and promotion. - The location focus on the local area. 	<ul style="list-style-type: none"> - IKKON team facilitated access on commercialization by promoting the new creative product and services overseas. - LA can do promotion direct and indirect using social media (online).
Risk Assessment	<ul style="list-style-type: none"> - LA intent to avoid risk on commercialization. They sale the product on the spot. - Consumer buys a product based on visual shape and price not because of the quality. 	<ul style="list-style-type: none"> - LA and IKKON Team take a risk on commercialization the product by providing budget in promotion, also networking. - LA and IKKON Team develop networking as a business partner. - IKKON Team take a risk in guide local government as an investor.
Transparency	<ul style="list-style-type: none"> - LA works with government and local site in promoting the product to the customer. - Customer buys the product directly. 	<ul style="list-style-type: none"> - IKKON was providing the information availability and clarity about the commercialization in media. - LA was delivering the best and accurate information about the product and service information to the customer.

market is low; it illustrates that new product yet cannot integrate with public/market needs. Aarikka-Stenroos and Jaakkola (2012), commercialization demands a new kind of network competence including the ability to identify and access the required resources, to mobilize and organize resource combinations, and to manage the change of network relations. Hsu (2011) in Zemlickienė and Maditinos (2012) argues “good design can help an enterprise to achieve profits and offers consumers product values which associated with company image”. Informant (I6) as creative MSE’s mention that “BEKRAF help my organization to develop the product, still we need to manage the marketing”. The collaboration on commercialization can vary from pursuing long-term strategic goals to implementing marketing practices in the short term (Aarikka-Stenroos & Jaakkola, 2012). However, support from one company is rarely enough to cover the commercialization of new products, especially in technology-based companies. Therefore, IKKON program develops a strategy to create cooperation an organization to maintain business development of a new local creative product such as networking, business partner and innovation management.

Based on the interview, managing the commercialization still faced a lot of problems. For example, Informant (I1) mention that “the new local product has low demand, we don’t know why it’s happening”. From the DART Model (Table 2, 3, 4), we can see that the customer involves the existence model of NPD. The development of the product is increase based on stakeholder’s preferences and needs. The other issue is other stakeholder’s involvement in commercialization. Informant (I1) stated that “it is not easy for creative local actors in commercialization; it needs support from Local Government. Navarro et al. (2014) also describe value co-creation management need to focus on the specific market segment. It helps foster value co-creation to increase the benefits for participants. Alamanda et al. (2015) stated that all of the actors need to discuss the essential things about commercialization strategy that support local SME’s such as supply-demand of their new product and service, distribution cost and income. It helped by the other informant (I3) which said that “We collaborate and engage with local government in the process of product and service development. The findings support the perspective from Aarikka-Stenroos and Jaakkola (2012) “marketing demands a new kind of network competence including the ability to identify and access the required resources, to mobilize and organize resource combinations, and to manage the change of network relations”.

3.3. Discussion

Based on the DART model analysis (Table 2, 3 and 4), the findings show that the S-D paradigm provides a suitable logic framework for understanding value co-creation process on the case of IKKON. Novani and Kijima (2012) stated value co-creation in S-D logic needed to create a supportive environment for resource integration. The role

of stakeholders becoming a vital aspect of integrating the resources. Therefore, this study evaluates six aspects of risk assessment related to value co-creation process and explained how the new value co-creation process mitigate the risk on existing model. The first two aspects are culture and natural resources. In general, Indonesia consists of various ethnic groups, traditional heritages and local wisdom. That diversity creates uniqueness and characteristics in domestic product competitive advantage. At the same time, natural resources are used as a local value to develop an innovative product. The integration between culture and the availability of natural resources is the inspiration to co-create new ideas to improve domestic products, for example, in the weaving production process in *Sawahlunto* area. The program combines woven yarn and rattan to produces a unique shape for interior products.

The next aspect is human resources. The program aims to increase the capacity of local human resources in producing domestic products. The new ecosystem hopefully creates job opportunities and improve community welfare. The main problem is the uneven human resources. Mostly, professional human resources concentrated in big cities. Therefore, it is necessary to do knowledge transfer and capacity building by collaboration environment between local communities and professionals. Knowledge transfer is a new way to respond to market opportunities, especially for new products and services (Snow et al., 2011). Collaboration between actors is established through the unification of roles and value co-creation, as well as creating works that bring mutual benefits to stakeholders. During the process, the participants and local communities learn each other, share, interact, explore and collaborate so that each party involved is ethically beneficial continuously. For example, in *Ngada*, East Nusa Tenggara area, the program successfully produces a new colour for the weaving process. I5 mention “IKKON is the gateway for design ecosystem in the future. The program accentuates sustainability development and collaboration responsibility between designer and local craft”. The idea inspired by local knowledge, natural resources and designer skill. To sustain the program, it needs supporting trainee to increase expertise and creativity in communities. Therefore, the model aims to ensure the regeneration and availability of human resources in the local area.

In the social and economy aspects, the IKKON is the power to create products that used local value and contemporary spirit to increase the economic and social value of the product. The program has succeeded in building a sustainable collaboration ecosystem. The impact of program qualitatively was seen in the community involvement. The program exploits creativity and knowledge transfer in product development. The program has also succeeded in building a collaborative ecosystem for the development of the rural creative economy in Indonesia. I5 stated “IKKON bring solution for Indonesia to manage domestic product, develop creative economy sector and increase socio-economic impact”. However, the role

of local government is still not optimal in supporting the sustainability of the program, especially in financial assistance (I2). The other informant (I8) stated that communities have a lack of access in the capital, the local government not provided. The IKKON program has reached 15 districts/cities in the past three years, with approximately 3000 local creative actors, and more than 200 participants (IKKON, 2019a). Nevertheless, the success of the program still needs to measure quantitatively related to the socio-economic impact.

Last is the infrastructure aspect. Infrastructure is very significant to see the readiness of the area to participate. Informant (I2) stated "Still, the infrastructure to visit *Ngada* is very limited, there is no improvement from local government. While, in *Sawah Lunto* area, the access of technology is superior. Therefore, the innovation product can be made related to technology such as '*Basamo*'. The new application to promote tourism and local creative product in *Sawah Lunto* area". Most of the local area in Indonesia has an obstacle in infrastructures such as technology, transportation and communication network (ICT). IKKON selected regions have constraints on the production value chain. Informant (I7) also stated "stakeholder collaboration is needed to fill the infrastructure gap in production capacity, distribution and networking. The provincial or district government need to facilitate the interaction between stakeholders by providing an integrated platform such as social media/website to make communication becoming conveniently in the future". That statement leads to the next discussion on how the program needs a new model which accommodates collaboration, partnerships, information sharing and knowledge exchanges between stakeholders.

There are three critical factors in developing value co-creation through IKKON, such as: mechanisms that facilitate interactions among diverse actors; adapting internal processes to accommodate different actors (roles), and enhancing the transparency of resource integration activities in the service ecosystem.

3.3.1. Mechanisms that facilitate interactions among diverse actors

This research identified the interaction of value co-creation process between stakeholder's collaboration already happened but not smoothly. Maglio and Spohrer (2013) stated: "the interaction is based on access to resources and their capabilities, and on how the value computation and interaction depend on symbol processing and language guided by mutually agreed-to value propositions". Therefore, the collaboration between stakeholders in designing domestic product and service are inclusively (IKKON, 2019a). The basic ideas of value co-creation process with co-experience model are to understand the goals and the capabilities of each party (Prahalad & Ramaswamy, 2004b; Turipanam et al., 2015). Co-experiences define as dynamic interaction process where the customer and provider learning and collaborating through experiences (Novani et al., 2015).

Based on the DART analysis, IKKON successfully facilitated the interaction between local actors, professional team and local government. Local government not involved deeply in product planning also commercialize. The involvement was existed in providing knowledge and skill for local actors. Sudhiastiningsih (2019) stated that the collaboration process on IKKON Program it not just happens internal team consisting of various disciplines, but also runs full of dynamics with the community, traditional village leaders, local government, and the community. However, the IKKON program has a limitation in time; the program implements temporary. Informant (I2) also argue that "Overall, the new product and service by IKKON program have great improvement in design that meet customer expectations. But the program was only for four months; potential local actors need to engage and collaborate with local government and other stakeholders, maybe private sectors".

3.3.2. Adapting internal processes to accommodate different actors (roles)

The co-experiences in the value co-creation process of IKKON program facilitated stakeholders to get involved deeply. The IKKON parties are local people, local government and professional team. The IKKON program accommodates all of the parties to live in together around six months to design improve (new) product and service in the local area. The purpose is creating understanding behaviour between local actors and professional teams. Based on the interview, informant (I1) stated that "the interaction and live in together is running well, they (parties) have the same understanding regarding the product and service that need to develop". If we examine the model of Prahalad and Ramaswamy (2004b), local actors and innovative team are the providers in the process of creating new value co-creation of domestic product and service design. The program has another party who is not involved in-depth. They are the people that were internally becoming stakeholders such as suppliers, customers and also competitors. Aarikka-Stenroos and Jaakkola (2012) found customers and suppliers may facilitate value creation via the roles of value option expertise and experience. While, "On our view, competitors set the business context, which in turn depends on arrangements among others; thus, competitors are stakeholders precisely because we must consider their perspectives when developing value propositions" (Maglio & Spohrer, 2013). Therefore, this research emphasizes that accommodate different actors will play a critical role in the problem-solving process in product and services development.

3.3.3. Enhancing the transparency of resource integration activities in the service ecosystem

Resource integration is the most crucial aspect of innovation. Kosaka et al. (2012) stated "service value, which is related to users' satisfaction about provided services, depends on the situation, user characteristics, and user

objectives in seeking the service”. While, Navarro et al. (2014) argue “value co-creation processes may be different according to the specific operant resources involved in one industry, instead of being operand-resource driven”. Collaboration between stakeholders is an antecedent of resource integration. Through its collaborative innovation, stakeholders mutually doing transfer knowledge and other resources in sustaining the program. Following Mele et al. (2010), knowledge, skills and other resources are integrated to be put together. Findings show that in the domestic product design process, IKKON does not yet fully involve customers transparently. The program was focusing on local benefits rather than public interests. Hence, customers should have the role of being innovation partners to stimulate new ideas or co-designers and co-producers – to provide higher value to end-users. The relationship between the company and the customer is thus a case of collaborative joint production of the results of innovation and an example of value creation collaboration “closely related to use value” (Kosaka et al., 2012; Mele et al., 2010).

3.4. A Proposed model: Collaborative value co-creation through multi-stakeholder

This research was underpinning the service system in how IKKON program develops value co-creation in new product and service design by collaboration with potential local actors. Edvardsson and Tronvoll (2013) stated new conceptualizations of service innovation according to S-D logic highlights the role of stakeholders, especially to integrate local benefits and public benefits. The process will capture the collaborative innovation between stakeholders that have different roles in the market, such as local actors (including the suppliers), professional team, consumer, competitors and private sector.

The program has also succeeded in building a collaborative ecosystem for the development of the rural area in Indonesia. Even though, the role of government is still not optimal, especially in financial assistance. The rural development process is mired by difficulties because of unrealistic expectations, inadequate specification of goals, and a lack of central government responsibility for the process (Shortall, 2004). Based on interview, the access of capital provided by the local government to local businesses is limited. I 2 stated “after the end of the program, the local government lack of commitment to sustain the program.

This research constructs a new model that facilitated multi-stakeholder collaboration (Figure 4). We believes the innovative collaboration has an essential role in setting the process of commercialization. Mele et al. (2010) show that interaction between network partners is a significant enabler of organizational learning and knowledge transfer, which encourages the integration of resources from one partner with the processes of other parties. The new model integrates local benefits and public benefits in value co-creation process by realizing the products that the community need, to overcome the limitations of local resources, and to measure the planning process and reduce the uncertainty during implementation. The model recommends multi-stakeholder that need to involved intensively in the commercialization phase, such as consumer, competitors, private sectors or business partner. However, this model need strong commitment from local government as a facilitator in providing financial access and infrastructure. Local government needs to expand partnerships with the private sector to drive innovation, skill education, and business networking for local creative actors.

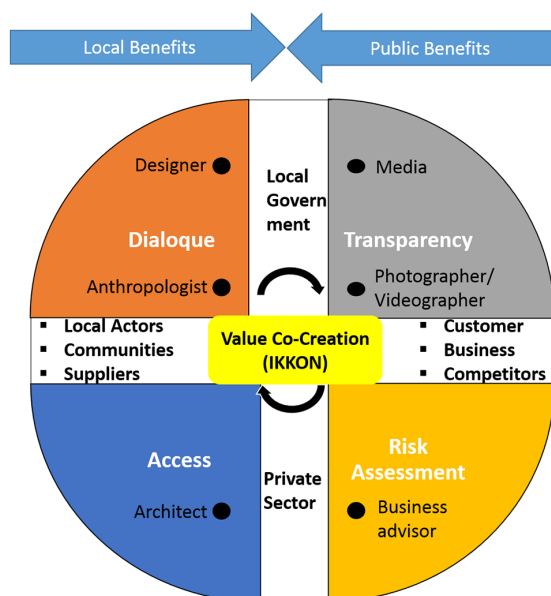


Figure 4. The conceptual model of collaborative value co-creation on domestic creative product and service in term of commercialization

Conclusions and recommendation

This research illustrates collaborative value co-creation processes for co-creating goods, services and experiences that involved multi-stakeholders. The implementation of IKKON is a concrete form of collaboration model in developing local economic potential in rural areas (inclusive). This study used the DART model to examine the value-co-creation process in new product development and service design on IKKON Program. The finding shows the engagement of the collaboration between stakeholders is critically needed in terms of dialogue and transparency. The new model also can be applied to help the other inclusive and empowerment program like IKKON to improve the value co-creation process. *The new model can help stakeholders to have better understand the upstream to the downstream of the domestic product value chain. The model can be used to diagnosing needs, designing solutions, managing conflicts and producing innovation.* Therefore, to optimizing the commercialization phase, this research suggests the program to enhancing stakeholder in their internal process and doing transparency to integrate the resources.

This study recommends a new model as a framework for developing a service ecosystem in sustaining domestic product and services. Still, the new model needs to validate by applying quantitative evidence following from previous research from Mazur and Zaborek (2014). This study has limitation related to the measurement impact of the program. To measure the impact we recommends to used indicators such as incomes, quality of life, local government budget and Social Return on Investment (SROI). This study also has limitations in the time series approach. So, further studies this research needs to implement a longitudinal study rather than cross-sectional.

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APPENDIX

Notations

Abbreviations

- BEKRAF – Indonesia Creative Economy Agency;
 DART – Dialogue, Access, Risk Assessment, Transparency;
 GDP – Gross Domestic Product;
 ICT – Information and communications technology;
 IKKON – Innovation and Creativity through Archipelago Collaboration;
 NPD – New Product Development.