

Article

# Value Propositions for Small Fashion Businesses: From Japanese Case Studies

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**Abstract:** Environmental problems at the global level have become a critical issue in today's fashion industry. However, small-and medium-sized fashion business (SMFBs) encounter barriers in promoting green business owing to finances, professional expertise, knowledge, and technology. Therefore, innovative ideas are vital for SMFBs to effectively address constraints to compliance. The purpose of this research is to analyze how SMFBs develop the interactive nature of value propositions based on the case studies of the Onomichi Denim Project and the REKROW and addresses what elements are associated with value propositions based on the human-centered perspectives. This study collected data through face-to-face and remote interviews, and a review of the previous literature, including magazines, websites, and videos. This study identified four value elements contributing to value propositions: environmental value, embedded social value, synergetic value, and educational value. These elements developed through various forms of interaction, such as a unique co-production system embedding social ties and the establishment of a production-oriented circular economy. The study proposed value creation through value proposition as a strategy crucial to managing SMFBs.

**Keywords:** value proposition; value co-creation; small fashion business; human-centered approach; circular fashion; the Onomichi Denim Project; the REKROW



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## 1. Introduction

Due to the rapid expansion of the global fashion market, the fashion industry has increasingly influenced the environment. In 2021, with the goal of achieving zero waste and carbon neutrality by 2050, the Ministry of Economy, Trade, and Industry, Ministry of Environment, and Consumer Affairs Agency formed the Japan Sustainable Alliance with 28 large apparel and textile companies [1]. To meet sustainable environment measures, small-and-medium-sized-fashion businesses (SMFBs) must also curb their environmental burden. Statistics indicate that small-and-medium-sized businesses (SMBs) account for 90% of businesses worldwide and cause approximately 70% of global pollution [2]. Larger companies are capable of addressing environmental issues, whereas SMBs are generally limited in finances, professional expertise, knowledge, and technology. Innovative ideas are vital for SMFBs to effectively address constraints to compliance. This study analyzes value propositions as a strategy to deal with the green business issues of SMFBs.

Vargo and Lusch (2004, 2008, 2016) developed a service-dominant logic (SDL) delineating a new service marketing theory and introduced 11 foundational premises (FPs) [3–5]. They noted the definition of service as the application of specialized competencies (knowledge and skills) to enhance individual benefits, processes, and performance [3]. This definition is relevant to explaining how SDL captures resources. In SDL, operand resources are resources that produce an effect after an operation or act is performed; operand resources act on operand resources [3]. Mainstream marketing shifts from operand resources to operant resources [3]. Moreover, according to Lusch et al. (2007), SDL is based on understanding the interwoven fabric of individuals and organizations, brought together into networks and societies, specializing in, and exchanging the application of competencies they need for their own well-being [6] (p. 5).

Recently, value proposition and the SDL are extended in their applications. Some scholars apply the concepts in environmentally friendly contexts. Stal and Jasson (2017) addressed sustainable consumption from the producer's perspectives and investigated how Swedish fashion companies shape value proposition through various customer products-service-systems [7]. Ranta et al. (2020) addressed how business-to-business suppliers use customer-value propositions (CVPs) to articulate value in a circular economy [8]. They conducted case studies across several Finish industries. The findings showed that CVPs in a circular economy embody four alternative value creation logics, namely, resurrect, share, optimize, and replace values that are built from different forms of innovations and highlight different design elements [8]. Although value co-creation is known to apply to both services and manufacturing industries, scholarly research has done little so far to understand it in relation to SMFBs for green businesses. Additionally, Vargo and Lusch (2008) pointed out the needs to investigate the interactive and networking nature of value propositions [4]. Moreover, value prepositions are considered to be essential premises of value co-creation. Therefore, this study analyzes how value propositions contribute to create benefits of green business based on a case study method to analyze two Japanese small fashion firms, the Onomichi Denim Project and the REKROW in Japan. The Onomichi Denim Project employs a unique co-production approach in terms of a human-centered approach to manufacture jeans and co-create values for customers. The REKROW collaboratively produces clothing upcycled from used denim uniforms, which are value co-creation in a circular fashion system based on the business-to-business interactions.

The overall objective of this study is to explore how SMFBs develop the interactive nature of value prepositions based on case studies of the Onomichi Denim Project and the REKROW and bring about a shift from the traditional *modus operandi* to co-creation of green business. The study proceeds as following. It first establishes an analytical framework articulating the concepts of SDL and the human-centered approach, and then investigates the elements contributing to value propositions from each human-centered perspective.

The remainder of the study is structured as follows: Section 2 conducts literature reviews, Section 3 presents a description of the analytical framework, Section 4 describes the methodology and framework, Section 5 analyzes the case studies, Section 6 presents the findings and discussion, and Section 7 presents the contributions and implications, and finally concludes the study.

## 2. Related Literature

The study regards value propositions and SDL as a theoretical foundation, and both human-centered approaches and circular fashion subordinate to this foundation. The reason is that Lusch and Vargo (2006), referring to SDL, clearly distinguished value co-creation and co-production, positing that value co-creation is an upper concept relative to co-production; the latter forms part of the concept of human-centered approach [9]. Additionally, a circular economy requires human engagement such that all actors work across different industries and economies [8]. Thus, human-centered approach is also a critical concept of the circular economy. This section conducts a literature review of human-centered approaches, circular fashion, value proposition, and SDL, articulating each concept to establish the analytical framework.

### 2.1. Human-Centered Approaches in a Field of Fashion

The human-centered approaches have promoted in-depth arguments in various studies. This section focuses on a field of fashion literature and reviews major human-centered approaches, namely, co-creation, co-design, co-production, and co-use.

Sanders and Stappers (2008) defined co-creation as any act of collective creativity shared by two or more people [10]. It is generally regarded as an extremely broad term with applications ranging from the physical to the metaphysical and from the material to the spiritual [10]. Suryanna et al. (2017) posited that the development of information and communication technology rendered the co-creation of value easy for the fashion

industry [11]. The authors conducted a questionnaire survey to conduct a virtual co-creation of hijab fashion between customers and providers in Indonesia to redesign a conceptual model for virtual co-creation based on the motivation of consumers. Bujor et al. (2017) focused on the co-creation through a case study of AWAYTOMARS to identify collaborative crowdsourcing business models [12]. AWAYTOMARS is a British start-up that designs garments through co-creation on the Internet. The authors noted that the reason for involving consumers in the process of producing new items is to listen and become closer to consumers, which creates a unique value and replaces the traditional way of thinking [12]. They argued that crowdsourcing platforms support the co-creation process and suggest the importance of an open innovation tool [12].

The next literatures of human-centered approach focus on co-design. Kwan et al. (2019) analyzed the psychological value of a co-designed footwear through workshops for older women in Hong Kong [13]. The authors argued that using appropriate footwear can reduce the risk of falls among the geriatric population [13]. The method applied was based on a questionnaire survey that investigated the perceptions of the participants about the topic of geriatric footwear and the features of its design. Notably, the co-designed approach promoted positive psychological impacts on the elderly and influenced their acceptance of the final projects. Hur and Beverley (2019) conducted another research on co-design with a focus on fashion design [14]. The authors explored the role of craft in a co-design system for supporting sustainable fashion design, production, and consumption, and discussed the capability of fashion designers and craft practitioners to facilitate solutions for sustainable fashion [14]. Their approaches are three-fold: conducting literature reviews to identify the key factors of non-sustainable fashion design, the implementation of the Sustainable Fashion Bridges (SFB) Ideation Toolkit, and the SFB online platform. The authors noted the SFB toolkit facilitated the understanding and development of users and professional designers in terms of sustainable fashion design [14].

The third literatures of human-centered approach are co-production. Arvidsson and Malossi (2011) elucidated the debate around customer co-production and the consumer economy through a case of Italian fashion. They analyzed the integration of consumers into the value chains of the culture and the creative industry based on “social factor” and “brand” [15]. They noted the fashion sector represented an example of the passage from social factory to brand as modes of the integration of consumer co-production. They referred how fashion has become a core component of the cultural economy from the Renaissance to counterculture [15]. However, since the 1980s, the brands-centered experience economy came to a central stage in marketing and business practices, while the urban environment and lifestyles remains an important source of value in the forms of customer co-production [15]. Bianchini et al. (2019) noted that the maker culture of production creates opportunities for new socioeconomic, organizational, and technological models of innovation [16]. Maker spaces, living labs, and experience labs promise a future in which co-design and co-production practices are increasingly part of the innovation framework in advanced socioeconomic contexts [16]. Lodovico (2019) explored the recent development of open and collaborative fashion design practices in urban spaces and analyzed how the fab lab experience may modify the innovation process in fashion [17]. Findings showed that the approach of the fab lab to research and experiment are seemingly collaborative and open to expert and non-expert users [17]. However, the fab lab is required to cope with traditional production and academic organizations and overcome the lack of trust from potential users [17].

Another human-centered approach is co-use in terms of sharing fashion. Niinimäki (2021) noted that fashion renting and leasing services are sustainable fashion consumption options to intensify garment use and slow down material flows [18]. She described how Finland consumers converted from resistance to acceptance of sharing services [18]. She argued that social aspects of fashion leasing strengthen environmental interests and that it was active in urban contexts because the phenomenon generated a sense of belonging in local neighborhoods and communities [18]. Jain and Mishra (2020) analyzed what factors

motivated Indian millennials to participate in luxury fashion rental consumption [19]. The results showed that social projection is the most significant predictor of intention to consume luxury fashion goods in a sharing economy [19]. Additionally, the authors noted the effect of perceived risk and the influence of past sustainable behavior on young consumers' luxury fashion rental consumption [19]. They suggested ownership-like promotion campaigns to encourage young people to shift to recycling and sustainable fashion [19].

### 2.2. Circular Fashion and Upcycling Business

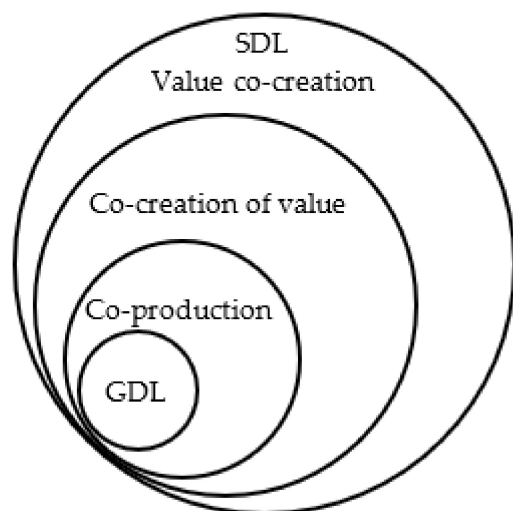
Many practices related to circular fashion are based on cooperation with consumers. For example, unused clothes are collected, donated, and sold to waste operators, charity organizations, and used shops [20]. Moreover, the past few years witnessed the revival of upcycling trends in circular fashion due to pressing global environmental problems. Upcycling is a process in which used or waste products and materials are repaired, reused, repurposed, refurbished, upgraded, and remanufactured in a creative manner to add value to the compositional elements [21]. Musova et al. (2019) examined consumer attitudes toward new circular fashion models, namely, slow fashion, Global Organic Textile Standard, and jeans rental [20]. The authors argued that consumers have exhibited the strongest motivation to buy products from waste or recycled materials. In addition, consumers prefer to support the good will of organizations [20]. Paras et al. (2019) defined upcycling as the addition of value and the formulation of viable means for reusing garments by modifying used products [22]. The authors investigated a case study in Romania and provided practical insights into the process. Based on interview data and field observations, the conditions of the sustainability of upcycling companies were the production of regular products, and the redesign of products according to consumer needs [22]. They pointed out that upcycling businesses are generally regarded to be beset with many economic difficulties where demand-based redesign activities can contribute to the profit of organization [22]. Townsend et al. (2019) launched an upcycling education project, which was inspired by the artistic upcycled garments produced by Martin Margiela [23]. The objective of the project was to gain insights from students regarding social and sustainable issues, specifically homelessness, clothing poverty, global environmental concerns, and textile wastes [23]. In the project, the local community collects used clothing. Thus, this project also enhances engagement with citizens and students [23].

### 2.3. Value Proposition and the SDL

Vargo and Lusch revised the FPs in SDL in 2004, 2008, and 2016, introducing 11 FPs in the final revision and presenting the conceptual foundation for SDL axioms. In their recent revision, they pointed out the need to specify the coordination and cooperation mechanisms involved in value co-creation through the market as well as society, emphasizing both the institutional perspective of SDL and service ecosystem perspective [5]. SDL redefines the service ecosystem as a relatively self-contained, self-adjusting resource system integrating the actors by shared institutional arrangements and mutual value creation through service exchange [24]. Lusch and Vargo (2014) also suggested that the service ecosystem has a nested structure consisting of micro, meso, and macro systems. The different actors in the service ecosystem co-create value through interaction at various levels to create different value proposition categories [24]. Quero and Ventura (2019) used value proposition as a framework to analyze value co-creation in Spanish business crowdfunding ecosystems [25]. In a qualitative multiple case study, they analyzed the crowdfunding platforms in micro-, meso-, and macro-contexts to find that crowdfunding can be considered a service ecosystem once all the participants exhibit positive synergies in funding [25].

Lusch and Vargo (2016) presented the core concepts of SDL as follows: service is the fundamental basis of exchange (FP1), the customer is always a co-creator of value (FP6), all social and economic actors are resource integrators (FP9), value is always uniquely and phenomenologically determined by the beneficiary (FP10), and value co-creation is coordinated through actor-generated institutions and institutional arrangement (FP11) [5]. Using SDL, Mele (2009) analyzed the value innovation in business-to-business relationships in both the manufacturing and service sectors [26]. She argued that innovations develop value propositions, which in turn provide customer service solutions through the integration of goods, services, systems, processes, and technology [26]. However, value co-creation is coordinated through actor-generated institutions and institutional arrangements [5] and created and determined through user consumption and the interaction of actors [9]. Furthermore, value co-creation is created through reciprocal services based on engagement between business actors and partners.

According to Lusch and Vargo (2006), value co-creation has two components: co-creation of value and co-production [9]. The first component is the co-creation of value. This represents the creation and generation of value through the interaction of business actors and the customer and is not the addition of value [9]. The second component is co-production. Lusch and Vargo (2006) showed that under co-production, users collaboratively produce goods with producers, for example, through shared inventiveness, co-design, co-use, or shared production of goods through the value network [9]. They also pointed out that co-creation is superordinate to co-production, although the concepts form a nested structured [9]. Figure 1 presents the encompassing relationship between SDL and goods-dominant logic (GDL) as modified by Taguchi (2010) [27].



**Figure 1.** SDL and value co-creation (modified from [27]).

### 3. Outline of the Analytical Framework

This section outlines an analytical framework based on the literature reviews. This study explores how and what collaborative interactions create value propositions through value co-creation and analyzes the value propositions based on two Japanese case studies, the Onomichi Denim Project and REKROW. The study applies SDL to analyze the micro-level service ecosystem in both case studies, framing the interaction between the business actor and customer (B-C), and between the business actor and business actor (B-B) to investigate the value propositions. Additionally, Vargo and Lusch (2016) noted that the relationship between business actors in the SDL does not strictly define the producers or consumers because they engage in benefitting their own existence by benefitting other enterprises through service-for-service exchange [5]. Thus, this study regards B-C and B-B as social and economic actors and their interaction as service-for-service exchange.

Figure 2 presents the analytical framework illustrating the concepts of value co-creation and the human-centered approach as modified by Gronroos and Voima (2013). Gronroos and Voima (2013) suggested that value creation involves a customer sphere and provider sphere [28]. This study interprets the concept of Gronroos and Voima (2013) and adopts four human-centered approach, namely, co-design, co-creation, co-production, and co-use. In Figure 2, value in exchange is applied as service-for-service exchange for not only B-C, but also B-B. Additionally, this study regards value co-creation as the upper concept relative to human-centered approach. Table 1 presents an analytical framework that describes the creation of locus and interaction process.

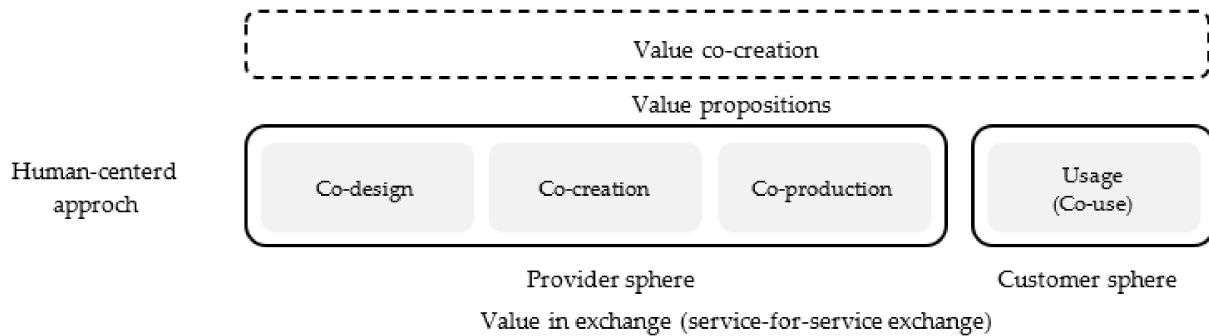


Figure 2. The framework of value proposition and human-centered approach (modified from [28]).

Table 1. Analytical Framework.

Firms	Creation of Locus	Interaction Process
The Onomichi Denim Project	Value in exchange	Interaction between B-C
The REKROW	Value in exchange	Interaction between B-B
	Value in exchange	Interaction between B-C
	Value in exchange	Interaction between B-B

#### 4. Methodology

##### 4.1. A Case Study Method

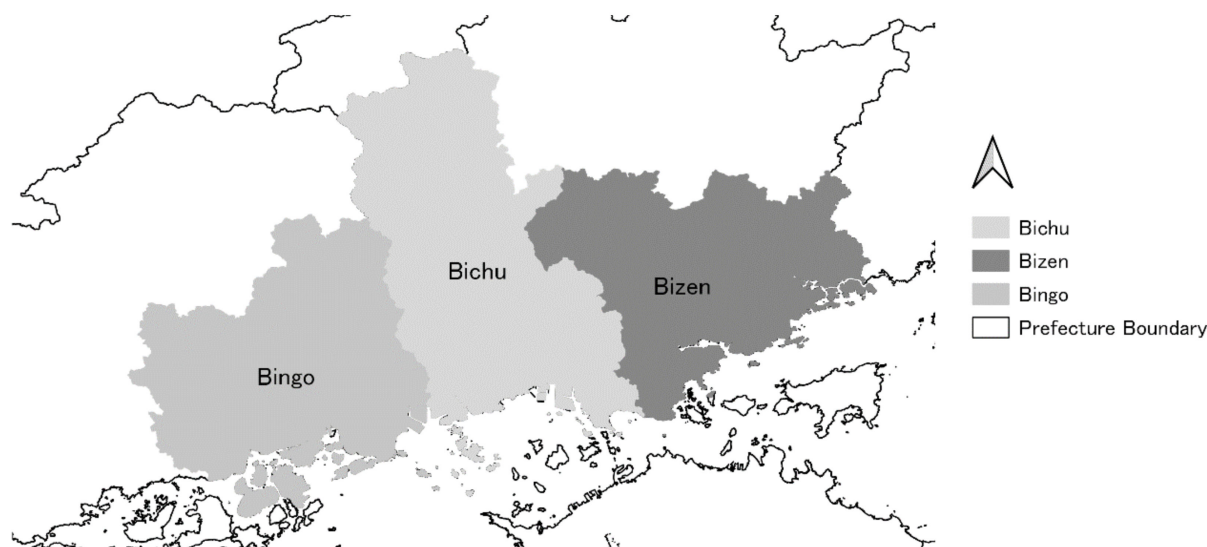
A case study method denotes a discipline that elucidates “why” and “how” a particular phenomenon occurs. It is a research method that empirically explores events that occur in the real world based on pre-specified procedures [29]. The case study approach can be used to provide empirical evidence for policy making and to formally verify “what works” for a development [30]. Knowing the why and how of cases are meaningful for the research because it works not only for development cases in developing countries but also for business cases.

##### 4.2. Selecting Cases

The selected cases are the Onomichi Denim Project and the RECROW in the Hiroshima prefecture of Japan. Onomichi is located in the eastern part of Hiroshima and is known as a port city since the early times. The city is also known as the center of bicycle touring, with Shimanami Way as the starting point of many routes due to its scenic views. A part of this area is called Sanbi, which is the generic and old name of three areas, namely, Bizen, Bizhu, and Bingo. The first two belong to the western side of the Okayama prefecture, whereas Bingo is located in Fukuyama city, on the east side of the Hiroshima prefecture.

Figure 3 depicts the location of the Sanbi area, which is one of the birth places of Japanese cotton kimono since the 1600s. These areas are known as the manufacturing cluster of the Japanese denim industry. According to Fujioka and Wubs (2020), Bizen was the largest producer in the 1970s with several small clustered of manufactures. However, the volume of production decreased after the 1990s [31]. Conversely, the volume of denim production in Bingo increased since the 1990s due to Kaihara Co., Ltd., Hiroshima, Japan,

which is the Japanese leading textile company in Fukuyama city [31]. Kaihara is also known for its production of UNIQLO jeans, the Onomichi Denim Project, and the REKOW. Additionally, several European high brands also deal with the business in this region. This study selected the Onomichi Denim Project as a case study because it employs a unique co-production approach to manufacture used jeans. The REKROW is known as a circular fashion business that creates products using used clothing. Indeed, the REKROW received the crQlr Awards in 2021, which is given to outstanding projects and ideas for designing circular economy in Japan. Therefore, this study considers both organizations as qualified cases to examine the creation of value propositions for green businesses.



**Figure 3.** The process of the case study method.

#### 4.3. Data Collection

Data were collected from the existing literatures, magazines, website, videos, and social networking services. This study also conducted face-to-face and remote interviews with Masahiro Idehara (CEO of the DISCOVERLINK Setouchi Inc., Hiroshima, Japan), Kyo Watayoshi (a sales staff of the Onomichi Denim Project and the REKROW), Kazuhiro Goto (CEO of the Kadoya Inc., Tokyo, Japan), and Arata Fujiwara (CEO of the MOONSHOT Inc. Kuon, Tokyo, Japan).

### 5. Case Studies

#### 5.1. DISCOVERLINK Setouchi Inc.

The Onomichi Denim Project and the REKROW belong to an organization named DISCOVERLINK Setouchi Inc. in the Hiroshima prefecture of Japan, which operated various businesses in this region, such as fashion, traditional kimono, Hito to Ito (human resource development program), social clubs (Onomichi Free University), shared offices, regeneration of old houses, hotels, and bicycle rental service. These linkages not only contribute to the profit making of its businesses but also contribute to local revitalization. The majority of businesses were launched to solve local problems, which were, thus, extended step by step [32]. For example, the reason for launching the hotel business was to address the unoccupied house problem in the Tomonoura area in Onomichi city [32], which is recognized as a historic district and is characterized by several nationally important cultural properties.

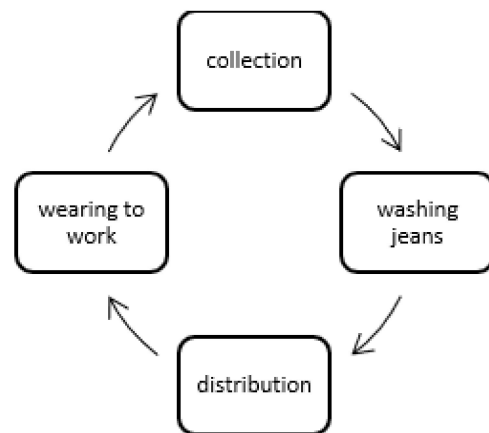
### 5.2. A Case of the Onomichi Denim Project

The Onomichi Denim Project was established in January 2013 in Onomichi in the Hiroshima prefecture of Japan with DISCOVERLINK Setouchi Inc. as its parent organization, who launched a shop named after this project. It aims to disseminate the appeal of jeans made in Hiroshima and to attract tourists to this region. In the leaflet, the motto is “the Onomichi Denim Project is a refreshing antidote to fast, disposable fashion [33]”. The approach employed by the project is to request citizens to wear two pairs of jeans for one year and collect their jeans once a week for washing based on co-production with citizens in this community. Additionally, the project also employs the commission-based system that customers can participate in the project if they purchase a special ticket. The used jeans made by citizens are dedicated to rich, individual stories based on people’s living, occupations, and work in the community, which cannot be expressed by machine washing and processing. They believe the inherent value of the jeans comes from these local participants, who work and live in this community. They are proud of what they made because it is the only one of its kind in existence, which strikes a chord with fashion lovers everywhere [33]. This project started with 240 participants in 2013. Currently, approximately 100 citizens are participating in this project. Since 2013, the project has served a total of 800 to 900 participants, which are mainly composed of farmers, carpenters, monks, welders, dentists, cooks, kindergarten teachers, fisherman, staffs in cafes, engineers, consultants, automobile technicians, sake brewers, and furniture workers. A city mayor also participated in this project as a private person. As Idehara (2021) explained, the project did not make an elaborate announcement [32]. Instead, information about the project was spread through word-of-mouth among the citizens with the increase in participation [32].

Figure 4 presents the management system developed by the Onomichi Denim Project, which adopted the following procedures. First, the project requests participants to return their jeans once a week, which are brought to specialized stores for washing. Then, the jeans are returned to the participants to wear for work. Moreover, faded jeans can change according to the occupation of the individual. Participants who wear boots for work can leave the outline of boots on their jeans. Office workers tend to impose sedentary lines on the jeans. For participants who work for a painter, their jeans look similar to a Jackson Pollock painting. Participants who are required to drop on their knees for work tend to break the knees of the jeans. For example, a kindergarten teacher in charge of older children will tend to only thin out the knees of the jeans compared with a teacher of younger children, where the knees of the jeans are more likely to break. Even the color of the jeans can differ between farmers: those who grow citrus fruits turn the jeans into pale yellow, whereas those worn by farmers who mow grass changed the color into pale green. Faded jeans express different tastes compared with machine-washed jeans. The advantage of machine-washing jeans can deliver consistent values and homogeneity, while the disadvantage of mass-produced products is a somewhat lack of distinctiveness. The advantage of this project is that each participant produces only one pair of jeans, which is unique to the world. The process of the production of jeans takes one year, where the entire processing step excludes chemical washing. This process ensures that jeans produced by the Onomichi Denim Project are environmentally friendly as well as conforming to slow fashion. Additionally, in general, the process of spinning yarn produces a large amount of “fiber waste” called “fallen cotton”. According to Watayoshi (2021), Kaihara Co., Ltd. orders denim cloth made of blended cotton, which is a mixture of pure and fallen cotton [34]. Jung and Jin (2016) pointed out the effects of long-distance logistics on the environment, which leads to a larger carbon footprint, compared with that of community-based fashion [35]. In the case of the Onomichi Denim Project, the entire process of jeans production, such as spinning, coloring, sawing, processing, washing, and finishing are operated within Fukuyama city and Onomichi city except for the material, which is American produced cotton. In other words, the local production of jeans contributes to environmental sustainability. For these reasons, jeans enthusiasts all over the nation visit the Onomichi Denim Project to purchase



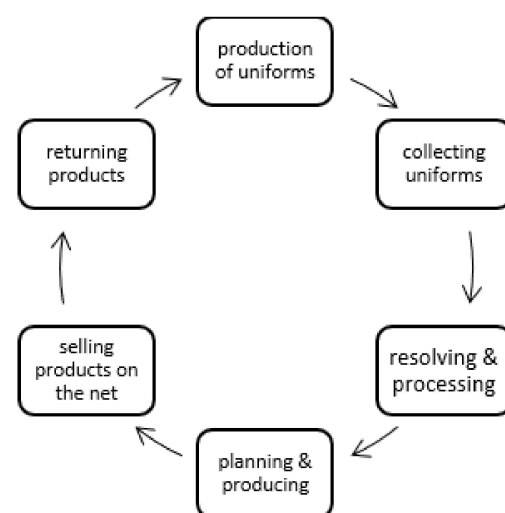
such ingenious jeans, despite the costly prices, which range from 350 to 650 USD, being higher than those for ordinary jeans.



**Figure 4.** The project management system in the Onomichi Denim Project.

### 5.3. A Case of the REKROW

In 2020, the REKROW was established in Fukuyama city of the Hiroshima prefecture to promote circular fashion, which is based on the upcycling of clothing, that is, used and discarded clothes from companies and factories. Figure 5 illustrates the circular system adopted by the REKROW, which follows two main operations: the first pertains to the collection of used and discarded clothing from the various companies and factories, and the second denotes the design of new clothes and uniforms using the collected used and discarded clothing. Additionally, their business plan requests consumers to return the denim products for another round of upcycling. The business strategy is to achieve an endless circle of recycling in this region. The business motto of the REKROW is “creating production-oriented circular economy where work clothes that have finished their duties are reborn”. In other words, the purpose of the business is to facilitate the region in practicing circular fashion by exploiting the characteristics of the production area as textile and apparel industries, particularly the denim business.



**Figure 5.** Workflow of endless recycling in the REKROW.

The project name “REKROW” is an anagram of the word “WORKER”, because the production of work clothes is a major industry in an area of the eastern part of the Hiroshima prefecture. However, with the progress in globalization, cheaply produced clothes are imported in large quantities overseas. The textile industry is considered a declining industry

in Japan, while small and medium sized textile and apparel companies in the Sanbi area survived by adopting a series of industrial structural adjustments sustained the community-based fashion businesses. [36]. Kazuya Yamaguchi, the founder of the REKROW and the manager of DISCOVERLINK Setouchi, Inc., mentioned that this project aimed not only to create a new value for discarded work clothes, but also a new economic cycle, which contributes to sustain the declining local textile industries [37]. The motivation of this project is “mottainai,” which means “how wasteful it is to discard things.” Mottainai came to mind when Yamaguchi heard that used denim uniforms from the Tsuneishi shipbuilding company in Onomichi city were discarded. These work clothes were manufactured by an apparel division of DISCOVERLINK Setouchi Inc., where Tsuneishi ordered (a total of 4000 denim jackets and 4000 denim pants). The work clothes were made in 2018 to commemorate the 100th anniversary of the Tsuneishi Shipbuilding Co. with the intention making work clothes in which workers can take pride and desire to work for the company. A graphic designer named Rikako Nagashima and a fashion designer named Ryota Iwai in AURALEE, Tokyo, and Kaihara Co., Ltd., participated in the design team for developing the concept of the work clothes [38]. Special denim fibers were weaved, which doubled the strength of the denim but reduced its density in half to make the uniforms durable but breathable. Additionally, by using pleats on the back and designing a loose silhouette at the hem of the jacket to secure the amount of exercise, a uniform was designed that is well ventilated and separated from the skin in the summer and can be worn as an inner in the winter.

The REKROW produced various products using the used jeans uniforms. For examples, they collaborated with the Kuon, which is an apparel company in Tokyo. The philosophy of Kuon is to solve the social issues and make people happy through fashion [39]. The patchworked jackets, which used old vintage textile, is typified by the design. A designer, Shinichiro Ishibashi in Kuon worked with the REKROW to produce cardigans, waist coats, and aprons. The Snow Peak is a known Japanese-designed outdoor company in the Niigata prefecture of Japan. The mission of the Snow Peak is to create restorative experiences in nature through legacy-grade gear and apparel [40]. The REKROW and the Snow Peak collaboratively operated the local tourism project in Onomichi city and then, staffs in the REKROW had lectured a history of textile and apparel in this region [34]. Another partnership is that between Stephen Kenn, a furniture company in Los Angeles, California, which developed armchairs upholstered using the used denim uniform [40]. The design used for the upholstery was beautifully patchworked and exploited the characteristics of used denim. Furthermore, the REKROW cooperated with two education institutes. The REKROW developed educational programs with the Bunka Fashion college and the Hito to Ito. Bunka Fashion College is the first fashion school in Japan, which was established in 1919 and produced many designers that are renowned worldwide. The students presented their upcycling work using the used denim uniform from the REKROW. In addition, Hito to Ito was launched as a human resource development program for the local textile companies [41]. The background of this project is to foster sewing leaders for the management of workers [42,43].

## 6. Discussion

The study addresses how the Onomichi Denim Project and the REKROW created value propositions based on the value co-creation for green businesses. The study analyzes the process of collaborative interactions and generation of its value propositions based on the analytical framework. Figure 6, and Tables 2 and 3 present the summary of the findings.

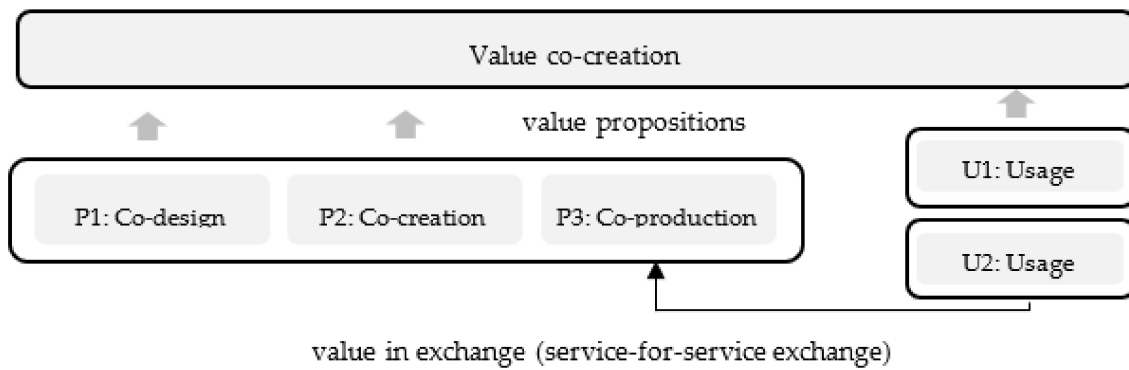


Figure 6. A structure of value propositions (modified from [29]).

Table 2. The Onomichi Denim Project.

Interaction	Collaborator	Type	Value Propositions
B-C	Customer	U1	Ingenuity, environmental, embedded social value
B-C	Participant	U2	Ingenuity, environmental, embedded social value
B-B	Kaihara	P3	Environmental value, synergetic value
B-B	Bunka fashion	P3	Educational value

Table 3. The REKROW.

Interaction	Collaborator	Type	Value Propositions
B-C	Customer	U1	Ingenuity, environmental value
B-B	Kuon	P1, P2	Environmental value, synergetic value
B-B	Snow Peak	P2	Synergetic value
B-B	Stephen Kenn	P3	Environmental value
B-B	Hito to Ito	P3	Educational value
B-B	Bunka Fashion	P3	Educational value

6.1. The Onomichi Denim Project

(1) U1: B-C

There are three value propositions observed: ingenuity value, embedded social value, and environmental value propositions. The Onomichi Denim Project employs a participatory system for jeans production. Faded jeans are co-produced with citizens from the local community. Customers are impressed with the stories behind each pair of jeans. Each pair exhibits a unique display of faded marks and links, solely dependent on the occupations of workers. From the customer’s perspective, the ingenuity value proposition of the Onomichi Denim Project is the co-production of jeans through a networking of their family, friends, and neighbors. News about the jeans spread through word-of-mouth instead of public advertisement, which indicates the effective the embedding social proposition. The finding related that the Onomichi Denim Project was a slow-fashion practice and tool up to a year to make jeans with citizens. In modern times, the concept of time is considered important for efficiency and productivity. The Onomichi Denim Project represents the concept that the investment of time and community-based production provides customers with an environmental value proposition.

(2) U2: B-C

The uniqueness of the Onomichi Denim Project is the participation in the production process by both citizens from the local community and customers from a distance. In the case of customers from a distance, value co-creation environmental value proposition and embedded social value proposition is facilitated. However, in the process of value in exchange, customers received the environmental value proposition through selling their

used clothes. Raising of the recent environmental awareness, consumers are having a favorable image into used clothes. From now, the supply from U2 to P3 expects to increase.

(3) P3: B-B

The Onomichi Denim Project collaborated with the Kaihara Denim Co. This interaction creates environmental value propositions based on jeans co-production. They collaboratively produced environmentally friendly denim, which included the fallen cotton in factories. Additionally, the local production system is regarded as environmentally friendly system.

(4) P3: B-B

The interaction between the Onomichi Denim Project and the Bunka Fashion College generated the educational value proposition. Students gain the practical experiences and knowledge about how to create jeans through participating in the projects. Indeed, students also learned life lessons and work ethics from the project, which is about how people earn livelihood.

## 6.2. The REKROW

(1) U1: B-C

This study considers the interaction between the REKROW and customers that creates environmental value and ingenuity value proposition. The REKROW processes discarded denim uniform and delivers them to consumers. Their approach is a production-oriented circular economy that facilitated a region that engages in circular fashion. Similar to the Onomichi Denim Project, the advantage of the local production system significantly reduces carbon footprint [35]. Moreover, the REKROW produced upcycling waste in the unique way. These facilitated ingenuity value proposition.

(2) P1, P2: B-B

The interactions between the REKRO and the Kuon created environmental value and synergetic value propositions. For example, the REKRO and the Kuon applied the co-design approach to produce upcycling clothes using the used work uniforms. Additionally, the REKRO provided the concept that using the used work clothes for upcycling provides alternative values. The Kuon provides the design skills that accumulated their own products. Their reciprocal process created the upcycling fashion that is regarded as synergetic value proposition.

(3) P2: B-B

The interactions between the REKRO and the Snow Peak create synergetic value proposition. The Snow Peak regularly hold the workshops outside and provide opportunities for customers to use their products. In the workshop, the REKROW provides their knowledge about a history of textile and apparel in this region. From a viewpoint of the REKROW, it is an occasion to attract potential buyers and gain reputation. Their collaboration enhances multiplicative effects that facilitate synergetic value proposition.

(4) P3: B-B

The interactions between the REKRO and Stephen Kenn create environmental value proposition. Their collaboration created the armchairs upholstered using the used textile. This environmentally friendly textile provides the benefit to Stephen Kenn. Additionally, the REKRO also had a reputation for being green business.

(5) P3; P3: B-B

There are two educational value propositions observed through co-production. Students in the Hito to Ito play a role in the making of used work clothes through sewing. Students in the Bunka Fashion Collage also play a similar role, by designing the clothes themselves. It is a part of the merchandizing course. The REKURO offered the material

resources that students use and opportunities that students present their works through co-operating the workshop.

## 7. Conclusions

This study has attempted to address how SMFBs can generate value proposition through B-C and B-B interaction to promote green businesses. The study employed the exploratory case study of two Japanese businesses, the Onomichi Denim Project and the REKROW. The study identified four value elements contributing to value propositions: environmental value, embedded social value, synergetic value, and educational value proposition. These elements developed through ecosystem, such as a unique co-production system embedding of social ties and the establishment of a production-oriented circular economy. This study proposed value creation through value propositions as a strategy crucial to the survival of SMFBs during difficult situations.

The findings of the study contribute to green SMFBs. The study clarifies how SMFBs develop the value propositions for green business based on the analytical framework articulating the concepts of SDL. Additionally, the study examined the concept of value proposition with various human-centered approaches. The attributes developed by the case studies provide evidence in SMFBs. From a managerial perspective, this study revealed important insights into the value proposition in small fashion business. In the case of the Onomichi Denim Project, the study clarified how social ties created ingenuity value proposition. Such interaction management help to produce alternative value co-creation. In the case of the REKROW, a designers play a significant role for value propositions. Designers are key actors for management of circularity because designers can access a vast amount of information such as information regarding discarded clothes about day-in-and day-out business.

The current awareness of the importance of the value propositions is expanding for practitioners and academia. Consumers as well as employees are now considered increasingly important for interactive brand co-creation [44]. Moreover, co-creation, which is generated by social capital, is recognized as the driving force of economic growth [45,46]. The brand co-creation and social capital are challenges for future research themes.

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