

# Designing a Green Industry Business Model with an Approach Iterative Process Model Diagram in the Regional Leadership of Aisiyiah Bali

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ARTICLE INFO	ABSTRACT
<p><i>Keywords:</i></p> <p>Trash</p> <p>Business Model</p> <p>Canvas</p> <p>Green Industry</p> <p>Iterative Process</p> <p>Model Diagram</p>	<p><b>PURPOSE</b> - Study this done with objective For designing business models and integrating green industry principles with Iterative Process Model Diagram approach.</p> <p><b>METHODOLOGY</b> - Design This made with objective For create mark <i>circular economy</i> for the community with still notice values sustainability for environment . In planning This using the Iterative Process Model Diagram model which enables the business model design process done in a way evaluative and adaptive stages . The study was conducted on fostered MSMEs through The Economic and Manpower Council of the Regional Leadership of ' Aisiyiah Bali' which has potential For implement practice friendly environment . This research uses a qualitative approach qualitative descriptive approach that combines the Iterative Process Model Diagram method. qualitative descriptive used to design , develop , and test industrial business models green.</p> <p><b>FINDING</b> - Have feedback from each cycle testing enables the Iterative Process Model method, which uses a development model gradual and repetitive . Research results produce business model concept with notice practice friendly environment . Research This recommend a sustainable business model that emphasizes to circularity production , utilization waste trash and collaboration between party.</p>

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## INTRODUCTION

This research was conducted with the aim of designing a *green industry* business model using an iterative process model diagram approach. Designing a *green industry* business model chosen because this business model can answer challenge problem social specifically problem waste in a country ( Jaradat et al., 2024). This concept is currently also widely used implemented by developed countries to overcome problem climate caused by waste rubbish production generated by industry manufacturing (Sugarmansyah et al., 2024). Waste waste produced by the manufacturing industry naturally has a huge impact on the ecosystem the environment in which around companies and impact in a way wide will influence on society wide (Andani & Suwandi, 2025). In addition, changes The current climate is also caused by gas waste produced by the manufacturing industry (Novianti & Maulidiah, 2025).

In the era of disruption and crisis global climate , the emergence of draft *green industry* or industry green is one of the approach strategic to answer challenge mentioned . Green industry prioritizes principle efficiency source power , usage energy renewable , management sustainable waste , as well as social responsibility towards the environment around (Kumar et al., 2024). In addition, green industry is approach development industry-oriented industry more environmentally friendly sustainability environment (Triandarto et al., 2024). In practice, the green industry encourages actors efforts to change method production and consumption by prioritizing ecological aspects natural like use of raw materials friendly environment and waste recycling production generated by industry (Yang et al., 2024).

greater benefits of implementing green industry give birth to a new paradigm where industry does not only focus on pursuing profits will but also creates economic, social and creates friendly industry environment (Sheela & Yamuna, 2024). In the modern era, the green industry approach is becoming increasingly popular. relevant when associated with the concept *circular economy* , namely an approach that emphasizes importance subtraction waste in a way maintain product and resource value through reuse and recycling ( Solmaz et al., 2024). *Circular economy* is part of utilization source power and value of the product using the concept recycling to reduce waste produced (Uwuigbe et al., 2025). For example, *circular economy* in the context of women's MSMEs, for example, the use of waste to be recycled so that reduce waste production produced as well as add mark from waste the (Muzamwese, 2025).

Implementation *green industry* can not only be implemented on large industrial level will but can also be implemented in industry at the MSME level. At the MSME level, strengthening green industry is not only meaningful in the economic dimension. technical production, but also touches on aspects of values, culture, and structure underlying social local entrepreneurial activities (Kartiko et al., 2022). MSMEs are considered to be an industry that is more suitable for implementing green industry because This industrial sector is very dominant business in Indonesia. National economic development cannot be separated from from the role of Micro, Small and Medium Enterprises (MSMEs) as the backbone back Indonesian economy (Udasmoro, 2020). According to data from the Ministry of Cooperatives and SMEs (2023), MSMEs contribute more than 60% to the national Gross Domestic Product (GDP) and absorb around 97% of the total workforce in Indonesia. However However , this great contribution has not been fully realized. in line with the implementation principles development sustainable , especially in the context of management source power, efficiency energy, and impact socio-environmental from activity production (Fartini, 2023).

Implementation of green industry of course need support from the relevant stakeholders. There are several stakeholders who are quite active in carrying out movement One of the social organizations is 'Aisiyiah. The role of the organization public civil such as 'Aisiyiah is quite prominent in the initiative movement social, especially among Woman through development MSMEs. 'Aisiyiah, as an organization autonomous Muhammadiyah women, have long been running social and economic programs based on a community based on values Islam, justice social, and gender equality. The MSMEs fostered by 'Aisiyiah are not only a means creation income, but also the place of formation solidarity, strengthening identity women, and development based values socio-religious.

However thus there are obstacles in its implementation primarily the absence of an adaptive, structured, and sustainable process-based business model (Suci Ramadani et al., 2025). Most of the MSMEs run based on experience practical and approach traditional, without

framework conceptually capable of navigating market dynamics, changes regulations, as well as demands environment life (Purnomo, 2025). Therefore, it is important Iterative Process Model Diagram (IPMD) approach in designing MSME business models. IPMD is a method that is cyclical. Where each stage business design and development are evaluated and improved in a way periodically, so that produce responsive, flexible and continuous processes develop.

Approach This iterative approach is in line with the principles of design thinking and adaptive management in the context of social entrepreneurship, where the process of creating economic and social values ongoing in a way simultaneous and open to feedback. The Iterative Process Model is an approach that emphasizes the cycle iterative development, where each version or initial stage of system repaired in a way gradually based on evaluation, feedback, and testing directly in the field (Verhoff et al., 2025). In each iteration, the system developed, implemented on a large scale small, tested, and then evaluated for further improvement or development. This allows stakeholders interests to be more actively involved, so the final result will be more suited to the needs actual and contextual local (Perski et al., 2025). With IPMD, the business model is not seen as a fixed structure, but as a system dynamic that can integrate dimensions social, economic, and environmental in a way holistic. This is very appropriate to the context of the fostered MSMEs community such as 'Aisiyiah', where the business process often develop through experience together, social evaluation, and reflection values local.

In practice, the MSMEs fostered by 'Aisiyiah Bali' have demonstrated great potential in integration between mark social and sustainability environment, for example through use of natural ingredients local, processing waste production into derivative products, or strengthening network marketing based community. However potential has not been documented in a formal business model that can be replicated and developed. Thus, it is necessary business model design that not only describes economic structure of MSMEs, but also represents mark social and environmental issues that they understand.

This research was conducted with the aim of designing a green industry business model using the IPMD approach. The case study was conducted on MSMEs fostered by 'Aisiyiah Bali' through MEK PWA Bali. The case study will be what is done is management waste Cooking oil is a product that has mark add. This research not only offers contribution conceptual in the development of sustainable business models, but also aims serve framework practical that can be used by the community local and organizational public civilians in strengthening economic resilience and sustainability social. It is hoped that this research can be a reference for development MSME assistance policies and programs that are more integrated with the development agenda industry green and development movement community socio-economics based mark.

## LITERATURE REVIEW

### Rubbish

Rubbish defined as remainder waste produced from activity activity man or natural process activities in the form of congested or material organic – non-organic (Kristina et al., 2025). Waste categorized in Lots category for example rubbish House ladder and rubbish industry. One of the rubbish industry is rubbish oil used cooking oil (Putri Wulandari et al., 2025). Oil used cooking oil is waste that is easy commercial produced in amount big impact if thrown away in a way direct will sultan decompose (Putri Wulandari et al., 2025). In many regions in Indonesia, the processing of waste rubbish cooking oil still Not yet managed in a way centralization and still nature traditional (Almigo & Juliana, 2025). In addition waste oil used cooking oil Lots thrown

away by society to which river risky damage River ecosystem (Padmayuda et al., 2025). Some study show awareness public will waste oil used cooking oil Still varies and there is also awareness public. Waste oil used cooking oil basically own potential tall For validated become product worth tall such as biodiesel and soap House stairs. At the Economic and Manpower Assembly of PW 'Aisiyiah Bali, do innovation management waste oil used cooking oil become soap House stairs. However obstacles faced Still Not yet have an integrated business model, so that product soap House the resulting stairs Still Not yet sold and only is of a trial nature. Therefore that, is necessary supporting business model design to sale innovation soap House ladder produced by MEK PW 'Aisiyiah Bali. Of course the business model This must designed together so that the business model This can implemented by all MSMEs fostered by MEK PW 'Aisiyiah Bali.

### **Green Industry**

*Green Industry* is defined as an industrial development approach that emphasizes resource efficiency, the use of clean energy, and reduced environmental impact throughout the production process. Green Industry aims to drive industrial transformation toward greater sustainability through technological innovation (Hadjri et al., 2020). This concept requires industry to produce more valuable products than just products. plus tall will but also ensure that activity production has no impact harm for environment society and generations upcoming (Wardhana & Muafi, 2022). In addition, green industry is seen as an effort to close the gap. cycle waste materials through strategy *Reduce, Reuse, Recycle* (3R). Thus, industrial processes that implement system circular can minimize waste and emissions, at the same time create long-term economic efficiency long. In a way overall, *Green Industry* is new paradigm in development modern industry that does not only pursue economic benefits, but also consider sustainability ecological and social (Moch Yusuf Fathussalam et al., 2021). Existing literature show that transformation going to industry green is not just global trend, but a necessity strategic in facing crisis environment, change climate, and increasing market demands competitive.

### **Iterative Process Model Diagram**

*Iterative Process Model Diagram* is one of the approaches to development systems, products, and designs that emphasize iteration as a *mechanism* main to achieve optimal results. This model is developed from paradigm engineering device modern software that rejects conventional linear approach like *waterfall*, and prioritize more cycle repair continuously through feedback loop. In the literature engineering system, iteration seen as a way effective to reduce uncertainty, correcting errors at an early stage, and improving product quality in general progressive. Iterative process model allows developers to do a series activity – analysis needs, design, implementation, and evaluation-in a repeats itself. Each cycle produce a more mature version of the product ( *increment* ), so that errors can be detected earlier and changes need Users can be accommodated flexibly. This makes the iterative model more adaptive. compared to approach sequential which assumes need system nature stable since the beginning.

### **Business Model Canvas**

The Business Model Canvas (BMC) is a functioning framework For designing a business model, so that make it easier for owner innovation business in operate his business (Nyoman Sawitri, 2024). This model developed by Osterwalder and Pigneur. In this framework own nine main elements of a business model that are each other integrated between One with others (Setiyowati et al., 2025). These nine elements among them consists of from *customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure* (Garcia Altafin et al., 2025). In context management waste oil used cooking oil, BMC can used For designing a business model based *green industry* Because capable describe channel mark from waste become products that have mark economy as well as impact on the environment and society (Stempfle et al., 2025). Business Model Canvas relevant as a framework for analyze and design business models *Green Industry* based on recycling repeat waste oil used cooking oil (Fadillah et al., 2025). BMC can integrate aspect economy, environment and social in a way systematic and integrated , so that capable implemented in the organization

community like Regional Leadership of 'Aisyiyah Bali' in developing a sustainable business model. Of course use this business model canvas need existence evaluation in a way sustainable, so that business model canvas can give impact for implementation *Green Industry*. So in the end objective Regional Leadership of 'Aisyiyah Bali' in overcome problem social in the form of rubbish can impact on society in a way wide.

## METHODOLOGY

### Research Design

In this study, qualitative methods were used. Descriptive approach iterative process model diagram. Qualitative method descriptive used for digging problems related to waste issues oil used cooking oil in Bali Province. Qualitative method defined as a research method that emphasizes research in terms of the condition of a natural object where the results his research emphasizes the meaning being researched. While descriptive qualitative is one of the research strategy in which in this method the researcher research events or phenomena social and asking someone to retell. This information is then retold by the researcher in the form of descriptive chronological. According to explanation previously that the use of this method is used to map problem waste oil Used cooking oil, which goes through several stages. The first stage is determining the research location, which is located at the msme fostered by MEK PW 'Aisyiyah Bali. This location was chosen because the UMKM fostered by MEK PW 'Aisyiyah Bali consists of from food msme so that have contribution in producing oil used cooking oil. The second stage is data collection, where data collection is carried out in three ways namely interviews, where the informants for this research consist of from the head of MEK PW 'Aisyiyah Bali, representatives of msme fostered by PW 'Aisyiyah Bali and LLHPB PW 'Aisyiyah Bali. After obtained results problem in the form of rubbish oil used cooking oil, then the FGD process is carried out to map it. Problem waste and designing products and business models with an approach Iterative Process Model Diagram. Third stage namely the documentation process, where all stages of the research are documented. The data used in this research is primary data obtained by the researcher. In a way direct from informant. Iterative Process Model Diagram is used when the problem mapped and used in the creation solution in the form of a business model by combining the business model canvas. Interactive The Process Model Diagram has stages consisting of : from eight that is stage initial planning, planning iteration, requirements ,analysis, and design, which at this stage are combined with the business model canvas. The next stage is implementation, where at this stage a production process flowchart is created from raw materials until the product consumed by consumers. The next stage is development, testing, where the business model and product have been designed. Tested try it out on consumers. The final stage namely evaluation, where the product that has been made or the business model that has been designed is then evaluated, so that it can be carried out repair in a way periodically.

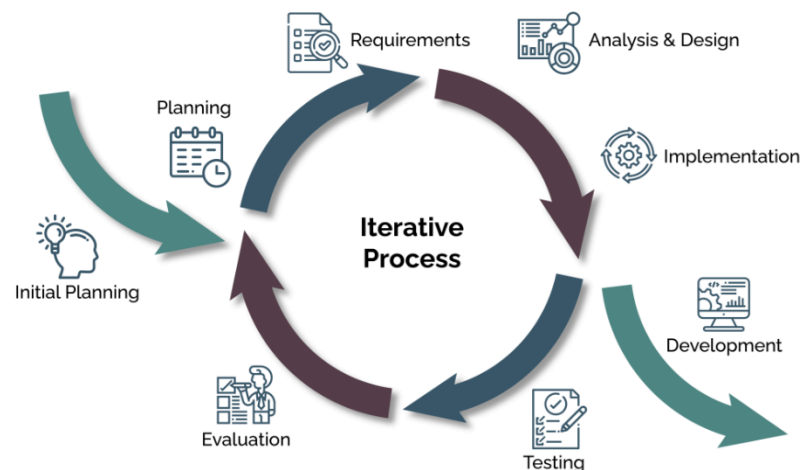
## RESEARCH RESULTS

The concept of the green industry business model designed in this business is combined with the development of social activities carried out by the Regional Leadership of 'Aisyiyah Bali. The initial stage is mapping excavation social issues that occur in society Bali Province. The results of the research that has been conducted focus the problem that will be tried resolved is a problem waste household and food industry waste namely waste used cooking oil . Used cooking oil is waste produced from the frying process and produces unusable waste. Composition This used cooking oil is composition large amount of waste due to many households and restaurants or the food industry that carries out the frying process in processing food so that produce used cooking oil as final waste. Final waste in the form of This used cooking oil can no longer be used in the processing process. Food so that waste recycling process is needed to be more environmentally friendly environment and does not cause danger for environment.

There are several dangers posed from the presence of waste This used cooking oil is also the first danger is that result in water and soil pollution if cooking oil is thrown away haphazard to water channels or land. Impact The second is caused by used cooking oil when it is thrown away in a way direct will result in blockage water channels and of course will cause adverse impacts for water ecosystem. The final impact is if the cooking oil is thrown away in a way directly without waste recycling cooking oil will cause disruption in water treatment. The nature of oil which is not easily soluble in water results in water pollution and the difficulty of doing so purify the water again.

Therefore, the solution to this problem is to carry out a waste recycling process. Used cooking oil. This recycling process not only addresses problem waste used cooking oil which can have an impact bad for environment if not managed properly. Also to add mark economical from waste used cooking oil. As for adding mark economical from This used cooking oil, therefore, in this study, an iterative process model was used to produce a *green industry* business model.

### Iterative Process Model



Picture. 1. Iterative Process Model

### Initial Planning

At this stage, the focus of the completion is focused on identifying the basic needs of the social project to be completed. These basic needs include the scope of recycling, available resources, and the purpose of the recycling process. At this stage, problems and opportunities are also identified. The identified problem is used cooking oil, a waste problem faced by the people of Bali province. Next, opportunities are identified where this waste cooking oil can be turned into products that can add economic value and have a selling point. Available resources are also analyzed at this stage, where raw materials for recycled waste cooking oil can be sourced from members of the Regional Leadership of Aisyiyah Bali. Next, the product will be identified which will be created from this waste recycling process. The product to be created is used cooking oil soap (Sabun Mijel).

### Planning (Iteration Planning)

This is a more specific stage, where the team framework and task allocation for each team are established. In the first stage, the resources to be involved, including the sources of raw materials, were compiled. At this stage, the teams involved are analyzed, and in this business model, stakeholders, namely the 'Aisyiyah Regional Leadership, are involved. Next, the 'Aisyiyah Bali Regional Leadership will form a team consisting of: from MEK and LLHPB . This team will be tasked with recycling and implementing the business model. The team will be under the auspices of the Environment and Disaster Management Agency (LLH PB ) of the 'Aisyiyah Bali

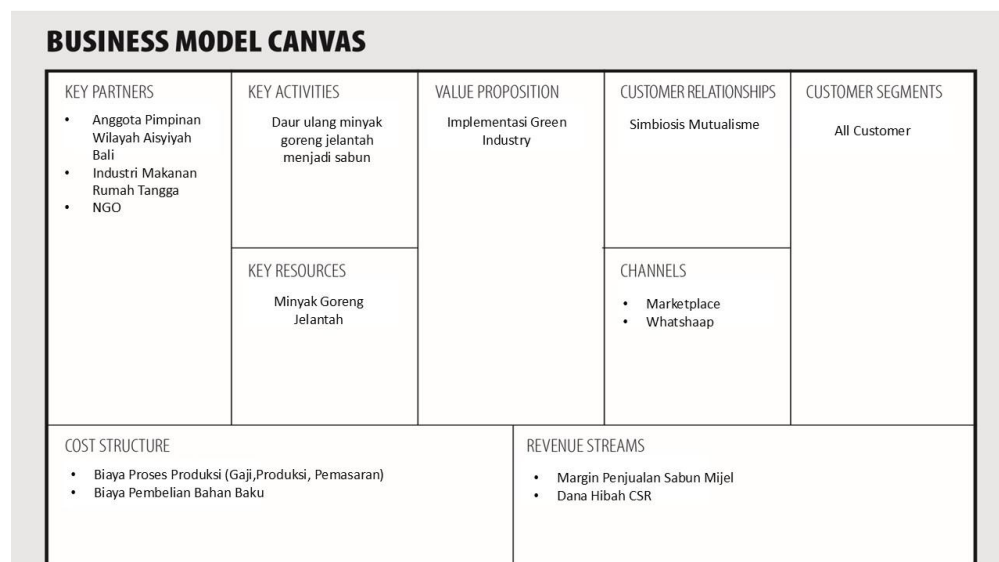
Regional Leadership. This will facilitate the recycling process and implementation of the business model . Will under the auspices of MEK PW ' Aisiyyah Bali .

#### Requirements ( Needs )

At this stage, a comprehensive analysis is conducted regarding the needs of the team and users of the recycled product to be produced. The team's needs are primarily related to the production process. The team's needs for the production process include raw materials, digital scales, and equipment for the production process. Meanwhile, user needs related to recycled cooking oil waste products in the form of Mijel soap are functional needs, including the function of the oil soap and safety when using used cooking oil soap. Secondly, environmental needs, where customers want environmentally friendly soap products.

#### Analysis & Design ( Analysis and Design )

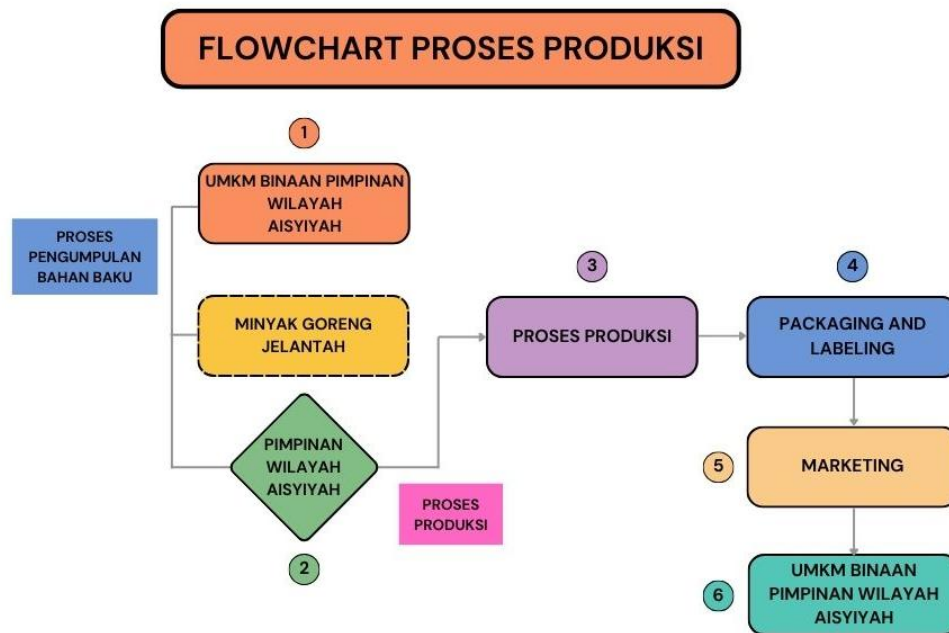
The analysis and design phase is the stage for designing the business to be run. This design uses a business model canvas framework where the business model will be analyzed using nine models. These nine models consist of key partners where this element describes which stakeholders will be invited to collaborate in this business model. The stakeholders who collaborate in this business model are Members of the Regional Leadership of 'Aisiyyah Bali, the Household Food Industry, ngos. The second framework in the business model is the key activities or activities carried out in this business: recycling used cooking oil into Mijel soap. The third framework is the key resource or resource used in the activities of this business model is used cooking oil. The value proposition or value offered in this business model is the Implementation of Green Industry through recycling waste cooking oil. To illustrate the relationship that occurs between customers and producers, it will be illustrated in the customer relationship framework where the relationship that occurs is a mutually beneficial relationship or mutualistic symbiosis. The customer segments or consumers selected are all groups where the products produced can be consumed by all groups. To connect consumers and producers, the channels used are marketplaces and whatsapp. The costs incurred in this business activity are production costs, including salaries, production costs, marketing costs, and raw material costs. The income and revenue generated from this business model are sales margins and CSR grant funds, which can be used to develop the business. From the analysis and design stages, the business model moves on to the implementation stage.



**Figure 2**Business Model Canvas of Used Cooking Oil Soap

### Implementation

Stages This is stages implementation of the business model that has been designed previously using the business model canvas. Below This is stages implementation of the production process that has begun from collection material standard. The collection process material standard in the form of used cooking oil involving a number of party among them are members of 'Aisiyiah and UMKM actors fostered by 'Aisiyiah in particular msme food. Next is the manufacturing process soap used cooking oil will done by the team from regional leadership of 'Aisiyiah. Production process This started from change material standard become product So, the next process is packaging and labeling. Product. Stages furthermore is the distribution process product to consumer through the marketing process. Marketing process This will involving msme fostered by 'Aisiyiah' Where msme will play a role important in do marketing.



**Figure 3.** Flowchart of the Mijel Soap Production Process

### Development

This stage is the business development phase. This development involves developing the product packaging design. Second, developing and improving the resulting product. Furthermore, this stage also involves building a technical system for implementing the business model. This technical system includes optimizing the Mijel soap production process, designing a systematic product marketing system, and developing a systematic sales administration system.

### Testing

This stage marks the product's market launch, where it will be sold to consumers. Next, the producer will assess consumer acceptance of the product. The Mijel soap produced by 'Ais Yi Yah Bali' has been quite well-received by consumers. However, several improvements or developments are needed.

### Evaluation

This stage is the culmination of the business model, and it serves to evaluate all aspects of the product, including the production process, marketing, and other technical aspects of the business model. The primary evaluation involves product quality improvement to ensure consumer demand.

## CONCLUSION

*Green Industry* business models can be designed using the Iterative Process Model Diagram approach , which is based on a *circular economy* . This method allows for a more streamlined design process . walk in a way gradual , measurable , and flexible to change field conditions . Each cycle iteration can produce significant improvement . By implementing this model, management waste and use source Power will be more efficient . In addition, through participation and development community local businesses, especially MSMEs, will get greater economic value . Therefore , the business model created can combine welfare social , economic growth , and sustainability environment . They can also serve as models for the development of industry inclusive and empowering green competition tall.

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