

Evaluation and Design of GoniGoni Business Model Using Business Model Canvas

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ABSTRACT

GoniGoni is one of the start-ups engaged in waste management that creates business value from people who want to turn their waste into economic value. Start-up GoniGoni provides a waste management system from source to end by optimizing the role of waste recyclers by using appropriate technology to create a recycling chain. GoniGoni.id has several services such as Goni Menabung, Gonicorner and Gonivercon. However, to increase the value proposition and reach new customers, a proper management strategy and business modelling are needed for this start-up. To help GoniGoni develop its business, this research was carried out to evaluate the business model of GoniGoni using Business Model Canvas. The first step in conducting this research is mapping the start-up's existing business model where the data is obtained from observations and interviews. The next step is conducting customer profiling by doing interviews with customers, which is followed by conducting an analysis of the business environment using data from a literature study. All data is used to do business model evaluation by using SWOT analysis, which is done for all nine blocks that are classified into four groups: value proposition, infrastructure, customer interface, and cost-revenue. The result of SWOT analysis then is used to formulate strategies, which is used to design the value proposition canvas and business model canvas. This research is expected to help GoniGoni to focus on the most important business elements and will have the greatest impact on driving start-up growth. The improvement proposed in this research includes improvement in the blocks of customer segment, value proposition, revenue streams and all related blocks.

Keywords: Business Model, Start Up, GoniGoni, Business Model Canvas.

1. INTRODUCTION

The problem of waste can be said as a cultural problem because of its impact on various aspects of life, especially in big cities [1]. Garbage pollution is a big problem in Indonesia because the increase in the amount of waste is not proportional to the increase of places where it is processed or recycled. The Indonesian Ministry of Environment (KLHK) estimates that 66-67 million tons of waste per year is produced in 2019 [2]. Figure 1 shows the waste production in several big cities in Indonesia in 2019. Jakarta is in the highest position by producing 8291 tons/day. Bandung, the biggest city in West Java, produces 1736 tons/day [3].

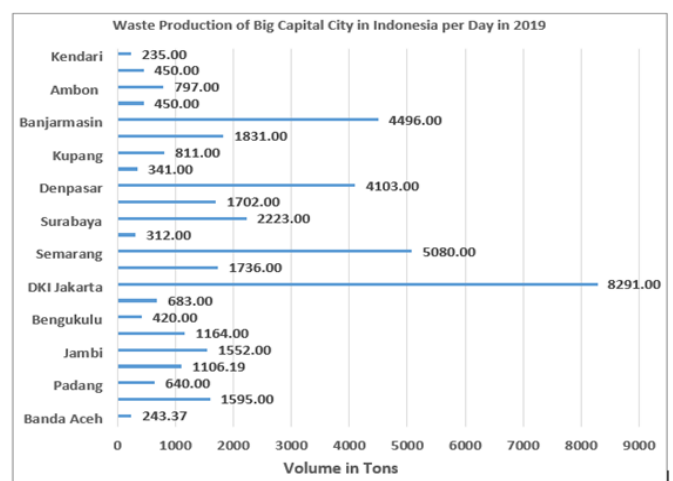


Figure 1 Indonesia's Big City Waste Production in 2019 [3]

The data in the National Waste Management Information shows that in 2020, for national level, households and traditional markets are main sources of waste, which contribute 40.37% and 16.91% respectively. In Bandung city, in 2020, households contribute a very significant amount of daily waste, that is 60% [3]. It means that reducing waste from those two sources can have a significant contribution in solving the waste problems.

Reducing waste efforts really needs the active role of the community, who produces this waste, so it is necessary to improve the awareness of the society about waste reduction. This effort must start from every individual, who is expected to care about the importance of maintaining environmental cleanliness, both by preventing the production of waste and playing an active role in processing existing waste. KLHK also encourages local governments and environmental activists to improve waste management such as creating a waste bank and making active programs that support waste management such as start-ups and other programs [2]. It is hoped that the community will be aware of waste management and can turn their waste into economic added value.

GoniGoni is a start-up that aims to be involved in the community waste management movement, by presenting a system that adds economic value on waste and taking part in waste processing management, whether in the form of inorganic and other forms of waste. GoniGoni was established in November 2019 and provides an end-to-end waste management system by optimizing the role of waste recyclers by using appropriate technology to create a recycling chain. GoniGoni carries out several activities such as depositing waste from the community, taking money from waste savings by the community, and providing guidance to work partners such as the community, scavengers, and waste bank officers. In November 2020, after one year of operation, on average GoniGoni gets 150 kg of waste a week from the community.

As a new start up, there are several challenges faced by GoniGoni, such as improving the market acceptance and revenue, improving the platforms, and also developing standard activities, providing resources and building partnerships that can improve its business performance. Analysing all those factors simultaneously can be done by analysing its business model. A business model describes the rationale of how an organization creates, delivers, and captures value [4]. There are several frameworks to describe the business models, one of them is Business Model Canvas. Business Model Canvas is a canvas consisting of nine basic building blocks that show the logic of how a company earns money. This canvas is a shared language that allows entrepreneurs to easily

describe and manipulate business models to create new alternatives to face the upcoming challenges [4].

Considering the existing situation, GoniGoni needs to evaluate its existing business model and develop a new one. This paper aims to evaluate the existing business model and develop a new business model for GoniGoni using the Business Model Canvas.

2. METHODOLOGY

The evaluation and design of business models in this research will be done by using the Business Model Canvas. Business model canvas is a tool that makes it possible to describe, design, and then summarize several aspects of a business into a single picture of a complete commercial business architecture. The business model canvas has nine important blocks, namely: customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure. The nine blocks are interconnected with each other and form a unified business model [4].

The data used in this research are qualitative data, and those are existing business models, customer profiles and data about the business environment of GoniGoni. The existing business model is obtained through interviews with the owner and observation in the company's sites. The customer profile is obtained by doing interviews with ten customers which are followed by the coding process to have customer jobs, customer gains and customer pains. The business environment data is obtained from literature study. Business environment data is grouped into four categories, those are industry forces, market forces, key trends, and macro-economic forces [4].

All data is used to do business model evaluation by using SWOT analysis, which is done for all nine blocks that are classified into four groups: value proposition, infrastructure that consists of key resources, key activities and key partnerships, customer interface that consists of customer segments, channels and customer relationships, and the group of cost-revenue [4]. The strengths, weaknesses, opportunities, and threats for every group are identified by the authors and confirmed by the management of GoniGoni. After the confirmation, the next step is developing and distributing the questionnaires to score all variables of SWOT. The respondents are the CEO, the Deputy CEO, and Research and Development manager of GoniGoni. The result of the questionnaire is used to define the strategies for GoniGoni. These strategies then are used to develop the value proposition canvas and the new business model canvas for GoniGoni.

3. RESULT AND DISCUSSION

3.1. Existing Business Model

The current business model was obtained by doing interviews with the owners of GoniGoni and observations in several GoniGoni's sites. The existing business model can be seen in the figure 2.

Currently, GoniGoni only has one customer segment, the residential households around Bandung. The main value proposition which is offered to the customer segment is adding economic value to their waste. In addition to this offer, GoniGoni offers garbage saving service, free garbage pick-up, fast customer service, and digital wallet and trash shop. For its channels, GoniGoni uses social media such as Instagram, websites, and direct marketing by doing socialization to the community, but those methods have not been able to increase the number of customers significantly. To maintain relationships with customers, GoniGoni uses customer services via WhatsApp. Besides that, GoniGoni also uses socialization and direct education in the field to maintain the relationships with customers and to find out customer complaints and problems during transactions with GoniGoni. About the revenue streams, there are two existing revenue streams of GoniGoni, those are the margin from waste trading and the sale of compost from organic waste.

The majority of GoniGoni start-up resources and activities still focus on inorganic waste management, so that at the initial business model, each resource and infrastructure was more about managing inorganic waste. Those resources are waste banks, websites, staff, recycling stations, and digitization infrastructure including data server, hardware, and software. Although focusing on inorganic waste, GoniGoni has human resources for organic waste research and development, and GoniGoni has started to develop Black Soldier Fly cultivation at the initial phase. The key activities to earn revenue streams are receipt of waste from the society, waste sorting, waste processing (at this time it is limited to composting organic waste, which is limited in size), selling trash to the trash market, customer's waste saving management, and customer education. During the pandemic, direct socialization cannot be accomplished well. Key partnerships employed in this business model are trash market, waste management companies, educational institutions, and local government. The last is about cost structure. Cost structure consists of investment and operational costs. Investment costs include warehouse, recycling stations, waste bank facilities and waste equipment, and the operational costs include maintenance cost, salary, utility, transportation, purchase of trash, and customer reward.

3.2. Customer Profile of GoniGoni

Customer profiles explain jobs, pains and gains of the customers [5]. Customer data is compiled from the results of interviews with ten customers. Based on the results of the interview, the coding process was carried out to obtain categories, which could be jobs, pains or gains.

Customers' jobs describe what customers are trying to get done in their work and in their lives, as expressed in their own words. These are the functional, social and emotional tasks performed by customers, the problems they are trying to solve and the needs they are trying to fulfil [5]. Based on the results of the interviews, the identified jobs are:

1. Changing useless items into economic value
2. Reducing waste at home so that the house becomes more comfortable and cleaner
3. Want to sell used goods

Customer pains describe the poor outcomes, risks and barriers associated with customer jobs [5]. Based on the results of the interview, the GoniGoni's customer pains are:

1. Customers are confused about what types of waste can be accepted
2. The garbage pick-up is not on time
3. Worried that the waste that is exchanged is not wanted
4. Long deposit and transport process

Customer gains describe what customers want to achieve or the concrete benefits they are seeking [5]. The following are GoniGoni's customer gains which can be identified:

1. Easy transactions
2. Garbage can be picked up according to the customer's time and place
3. Good communication between GoniGoni and customers
4. Exchange of money according to the expectations of customers.

The customer profile of GoniGoni customers can be seen in figure 3.

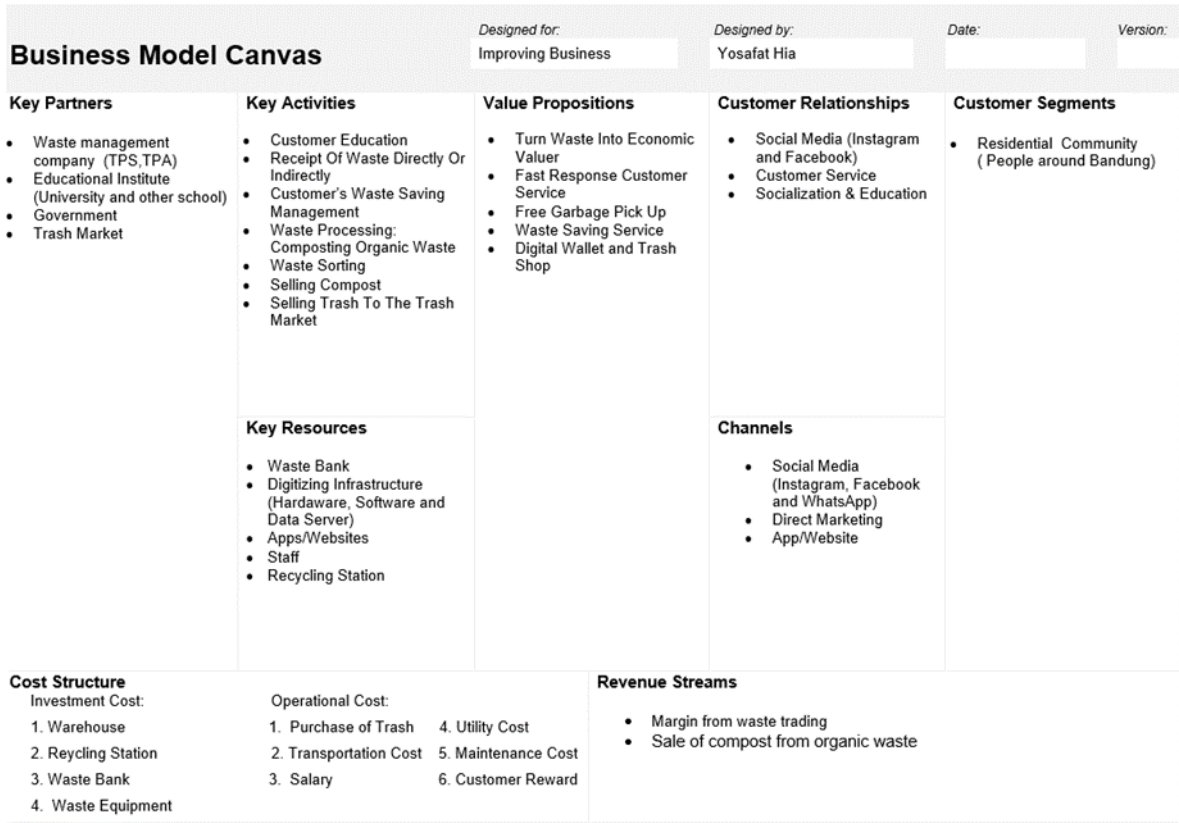


Figure 2. Existing Business Model

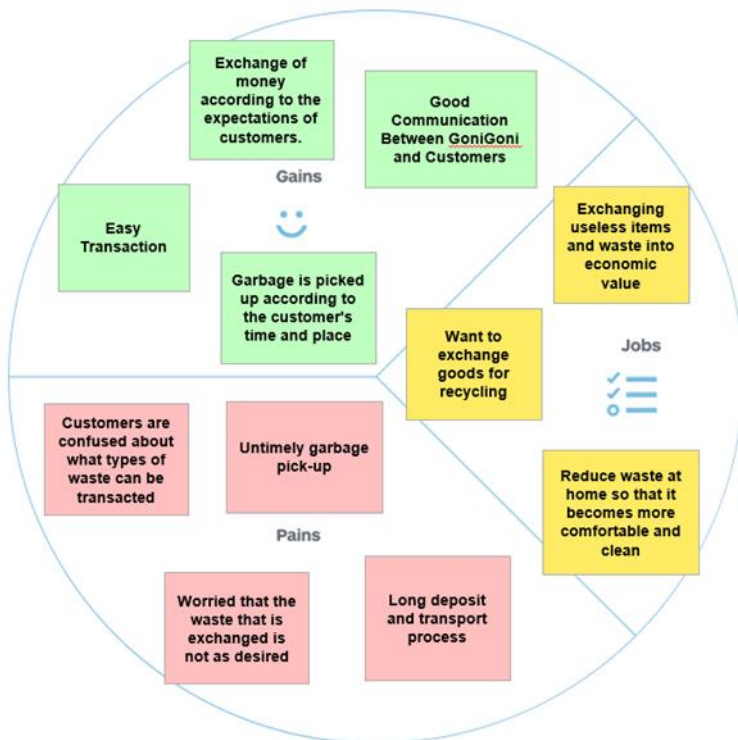


Figure 3. Customer Profile of GoniGoni

3.3. Business Environment

Developing a detailed understanding of the company's business environment will help the company to build a stronger and more competitive business model [4]. The dynamics of business must be reviewed on an ongoing basis because of the complex dimensions of the economy or market, higher risk and uncertainty, and market disruptions that have major impacts on the company. With an adaptive business model, companies can become the shapers and transformers of the business environment and become the new standard for the business environment. To better understand the design space of a business model, four main areas of the business model environment are mapped out, those are: (1) market forces, (2) industry forces, (3) key trends, and (4) macroeconomic forces.

3.3.1. Market Forces

According to the National Waste Management Information System, the waste generated in Indonesia during 2019 is 31 million tons and it increased to 33 million tons in 2020. From this amount, the waste generated in West Java Province is 4.9 million tons. In 2020, not all of the waste can be managed at the landfills or other waste management sites. According to the same data source, only 54% of the waste is managed and 46% of the waste is not managed or disposed carelessly. So, the increase of waste generated by the community becomes an opportunity for start-ups like GoniGoni. As mentioned in the introduction part, in the Bandung area, the largest waste comes from households with a percentage of 60%, followed by public facilities and markets. It means that they can be targeted as customer segments. They can do transactions with GoniGoni, and GoniGoni can help the community to connect with the waste management industry so that the community's waste can be turned into valuable things. In Bandung, there is a KangPisman community, which organizes community activities to create crafts from plastic. The other interesting fact is that 70% of waste is organic waste that can be processed into several products such as eco-enzymes.

3.3.2. Industry Forces

Support from the government will increase the public awareness of the importance of waste management to be economical. Cooperation with the Department of the Environment is very influential, especially on programs related to the community/customers of GoniGoni. Support from the local government is an opportunity for the company. About competitors, the existing incumbents in waste management are Waste4Change as the biggest player located in Bekasi, Smash and Mulung. Besides this, there are new start-ups for waste management from West Java, such as Greeny from

Bandung and Mountrash from Bogor. New entrants are a threat to the company because they will take the potential market. However, there is an opportunity because the other competitors are more interested in inorganic waste.

3.3.3. Key Trends

By digitizing waste management, the process can be better managed. Through digitalization, it is also easier for people to manage waste and can turn waste into economic value. So, the digitalization trend, which has increased in the pandemic era, is a very important opportunity for companies. The other important thing is the usage of waste as an energy source by converting organic waste into biofuel or other energy. Indonesia has just built a Waste Power Plant (PLTSA) that uses waste as a material to generate electricity, and targets 12 other plants in 12 cities. But the most important point is there are still many people who are less concerned with waste management so that with the active companies that do business through waste management, the community becomes concerned because they can obtain economic value from the waste.

3.3.4. Macro-Economic Forces

Circular economy is an economic system that replaces the 'end-of-life' concept with reducing, alternatively reusing, recycling, and recovering materials in production/distribution and consumption processes. Circular economy is a main key in sustainable development, and simultaneously creating environmental quality, economic prosperity, and social equity. It needs novel business models to be realized [6]. According to Sustainable Waste Indonesia (SWI) data, less than 10% of plastic waste is recycled and more than 50% still ends up in landfills (TPA). The plastic waste can be used as raw material for other products. There are several companies or funding institutions that invest in start-ups that have interesting innovations and business models that have an impact on people's lives. This institution will provide capital to start-ups that are considered to take an important role in people's lives. With more and more investors investing, they become opportunities for start-ups like GoniGoni.

3.4. SWOT Analysis and Strategies Proposed

SWOT analysis is done in this research to evaluate the existing business model. The factors of SWOT were identified by authors, and then this list was confirmed to the company management. Based on this confirmed list, a questionnaire was developed and deployed to company management to be scored. The result then is mapped into a SWOT matrix. As explained before, the identification of SWOT is done for value propositions block, for the

group of infrastructure blocks that consists of key resources, key activities and key partnerships, for the group of customer interfaces blocks that consists of customer segments, channels and customer relationships, and the group of cost-revenue blocks. Therefore, there are four SWOT matrices. The summary of SWOT analysis results and the strategy formulated for GoniGoni is explained in the next paragraphs.

3.4.1. Value Proposition

The strengths of GoniGoni related to the value proposition is that GoniGoni has human resources in research and development of organic waste, so GoniGoni can develop value propositions related to organic waste, and GoniGoni also has human resources in digital application development. In addition, garbage pick-up service is also a strength of GoniGoni, because this is what customers expect and the competitors do not offer this service. However, the customers have pains of untimely garbage pick-up, long process and being confused with the type of garbage that can be accepted. Related with opportunities, there is an opportunity that is identified from the fact that the other start-up competitors are more interested in inorganic waste. So, focusing on organic waste is an opportunity. The other opportunities come from the involvement of GoniGoni in the government program of “Perumahan Berseri”, that is a Bandung city program to reduce waste through the establishment of waste banks, and the existence of a community who creates crafts from waste. On the other hand, there are threats that can be identified from the competitive position. The other competitors have mobile applications, when GoniGoni is still in the process to do that, and now it is using websites. Besides this, GoniGoni also faces competition from new entrants.

The strategies proposed for GoniGoni’s value propositions are:

1. Develop services to manage organic waste “We Save Your Food Scraps”
2. Improve the waste free pick up service namely “Gercep” and “On Time Pick Up”. Gercep is Indonesian acronym for gerak cepat or quick move
3. Develop new service: marketplace for crafts from garbage
4. Improve waste saving service in collaboration with “Perumahan Berseri”
5. Launch the mobile application of GoniGoni, with complete and attractive information about products and services of GoniGoni

3.4.2. Costs and Revenues

The strengths of GoniGoni in the aspect of cost and revenue are: 1) the recurring characteristic of the revenue

from waste business, because the waste is generated every day, 2) the presence of human resources who can handle the organic waste-based service as a new revenue stream, 3) the presence of new revenue streams alternatives: the initiation of a revenue stream from Black Soldier Fly cultivation which can be used as animal feed. Besides that, there are opportunities for revenue streams that can be explored from garbage-based craft marketplace and eco enzyme production from organic waste. The threats that can be identified is the presence of many competitors in inorganic waste. The weaknesses of GoniGoni in the cost/revenue aspect are: 1) the cost of waste pick up cannot be ignored, although it is not very high, 2) the revenue stream is not diversified.

The strategies proposed for GoniGoni’s cost and revenues are:

1. Explore and intensify the new revenue streams: Maggot of Black Soldier Fly, garbage-based craft marketplace and eco enzyme production. This strategy can be executed gradually
2. Increase the efficiency of transportation cost. One way to do this is making regular pick-up schedule, e.g. once a week, with the most efficient route

3.4.3. Infrastructure

The strength of GoniGoni in the aspect of infrastructure is the availability of waste trading and processing facilities such as waste banks, recycling stations, digitizing infrastructure, and human resources. Definitely, the scale of these facilities needs to be expanded when the activities increase. However, GoniGoni needs to extend its network in the waste business supply chain. The opportunities of GoniGoni in the infrastructure aspects are: 1) many investors are interested in waste business, 2) Indonesia is the second largest plastic waste producers in the world, 3) collaboration with the government who has programs in line with the GoniGoni activities, 4) collaboration with campuses who has increasing attention to the environmental issues. The threat that can be identified is the scale of competitors who have better technology and funding.

The strategies proposed for GoniGoni’s infrastructure are:

1. Find investors for GoniGoni expansion
2. Improve the partnership with campuses and government institutions
3. Build infrastructure for eco enzymes production
4. Launch the mobile application

3.4.4. Customer Interface

The strengths of GoniGoni in customer interface are: 1) strong customer relationship, 2) low customer churn rate. The weaknesses that can be identified are low increase of penetration rate and low level of brand awareness. The strongest channel before the pandemic, that is direct socialization, cannot be continued because of the pandemic situation. The other weakness is the unintegrated channel of GoniGoni. On the other hand, there are several opportunities of GoniGoni: 1) new market segment: market and public facility, 2) online channels and customer relationships, 3) collaboration with environmental activists, government institutions and others

Strategies proposed for GoniGoni's customer interface are:

1. Collaboration with influencer to strengthen GoniGoni brand awareness
2. Explore the new market segment, those are traditional markets and public facilities
3. Improve customer service
4. Creating environmental sustainability awareness campaign
5. Improve the social media channels by using TikTok and other familiar social media
6. Launch the mobile application

3.5. Value Proposition Canvas

In designing value propositions, a value map is needed to be able to describe and identify the products and services offered by GoniGoni and tailored to the wishes and needs of customers. The value map describes the value proposition in a structured form and is divided into pain relievers, gain creators and products and services [5]. From the customer profile data and strategy of value proposition that was defined previously, the value map is developed, and then a fit analysis was carried out. This fit analysis describes the suitability between the components in the value map and the components in the customer profile. The fit between customer profile and value map that has been compiled can be seen in the figure 4.

3.6. Proposed Business Model Canvas

The proposed Business Model Canvas obtained from the SWOT analysis and the design of the new value proposition can be seen in the figure 5.

The following is the explanation of the proposed business model canvas for GoniGoni

1. Customer Segment. Besides the old customer segment, the proposed new market segment is

market and public facilities, because they are dominant source of waste

2. Value Proposition. The main value proposition is still the same, that is changing waste into more economic value. This value proposition is accompanied by improving waste saving services, improving the Free Garbage Pickup service with the new service name "Gerak cepat (Gercep) and On Time Pick-Up", improving fast customer service, the combination of GoniGoni Mobile App for your waste solution with Digital Wallet and Trash Shop, "We Save Your Food Scraps" and the new "Crafts Marketplace".
3. Channels: direct marketing, website & New GoniGoni Mobile App and social media (Instagram, Facebook, Whatsapp and TikTok), influencers (environmental activists) to strengthen the GoniGoni brand and create environmental campaign media through local government assistance.
4. Customers Relationship: customer service, outreach and education, social media (Instagram, Facebook, Whatsapp and TikTok) and the New GoniGoni Mobile App
5. Revenue Stream. The revenue stream consists of the sales of inorganic waste which is sold to the waste market, and the other proposed sources of income from the sale of BSF fly maggots, the fee from marketplace of handicrafts from waste, the sale of Eco Enzyme and the sale of compost from the organic waste.
6. Key Resources: waste bank, app/website, staff, recycling station, digitization infrastructure (data server, hardware, and software), infrastructure of BSF Flies cultivation, and eco enzyme production facility, and investor fund
7. Key Activities: direct receipt and pick-up of garbage, exchange of waste, accepting customers who want to save waste, sorting waste, selling waste to the waste market, education and processing of organic waste, Black Soldier Fly (BSF) maggot cultivation, developing Mobile App, eco enzyme processing, creating special research on organic waste and as an intermediary for selling community handicrafts
8. Key Partnerships: waste market, waste management (TPS/TPA), nearby universities and schools (educational institutions), local government, collaboration with environmental activists/communities, collaboration with Magalarva and fish farms/ponds.
9. Cost Structure: The cost consists of investment cost and operational cost. Included in investment costs are warehouse, recycling station, waste banks and other assets and equipment. The operational costs include staff salary costs, utility costs (electricity and

water), maintenance costs, transportation costs, purchasing waste costs and customer reward/point fees, the cost of managing BSF fly maggots, and the operational cost of eco-enzyme.

Figure 5 shows the picture of the proposed business model that strengthens GoniGoni's business. There have been major changes, especially GoniGoni's focus on organic waste processing and the development of mobile applications for smartphones with the aim of making it easier and more comfortable for GoniGoni customers. Strengthening the management of organic waste requires costs, research, and a greater number of customers to be able to implement an organic waste management plan. The proposed organic waste management is BSF fly maggot cultivation and eco-enzyme management. With the addition of attention to organic waste also makes suggestions for adding customer segments, namely markets and public facilities (restaurants, juice shops and cafes). The addition of this new customer segment is because public facilities and markets are very high producers of organic waste. So that with more customer segments, waste management will be more sustainable and can reduce landfill or landfill land because GoniGoni carries out sustainable waste management. In the new value proposition, several services are improved and there are several new value propositions to strengthen organic waste and become a marketplace for community handicrafts made from waste and a mobile app that makes GoniGoni more advanced in the waste management business. There are several service improvements that are tailored to customer complaints and problems so that they can be resolved with a new value proposition. The GoniGoni channel in the existing condition has not been able to make GoniGoni get a significant addition of customers. With new channels such as applications on smartphones, it is easier for customers to connect with GoniGoni. GoniGoni also gains insight into customer behaviour. Viral social media like TikTok has proven to be an effective marketing tool. Environmental activists as well as local governments are collaborating with GoniGoni to campaign for the importance of sustainable waste management. In the proposed activity, there are also many new activities for organic waste management such as BSF fly maggot cultivation and eco enzyme management. In the new business model, GoniGoni takes a role as an intermediary in community crafts by providing a marketplace. GoniGoni partners are also growing to create a mutually supportive network. GoniGoni's new partners include collaboration with Magalarva for BSF fly maggot cultivation, then new partners to sell maggot products to livestock and fishponds, investors for additional development capital and environmental activists to increase public awareness of waste. GoniGoni's financing and operational expenses will also increase due to the latest activities and services, but GoniGoni's sources of income are increasingly diverse and increasing.

4. CONCLUSION

Today's startup business must be adaptive and innovative with market developments that occur. Adaptive means the company knows customer needs based on changing trends and market conditions and can adjust the offer to that needs. The latest proposed business model is based on customer needs. The value proposition is designed and structured with the aim of meeting customer needs by considering every aspect. GoniGoni needs to do its best to fulfil the wishes of customers who want their waste to be converted into cash and served with the best facilities, so that customers can continue to be GoniGoni's regular customers. What is proposed in the new business model will have an impact on the financial condition of the company and need to be estimated well by GoniGoni.

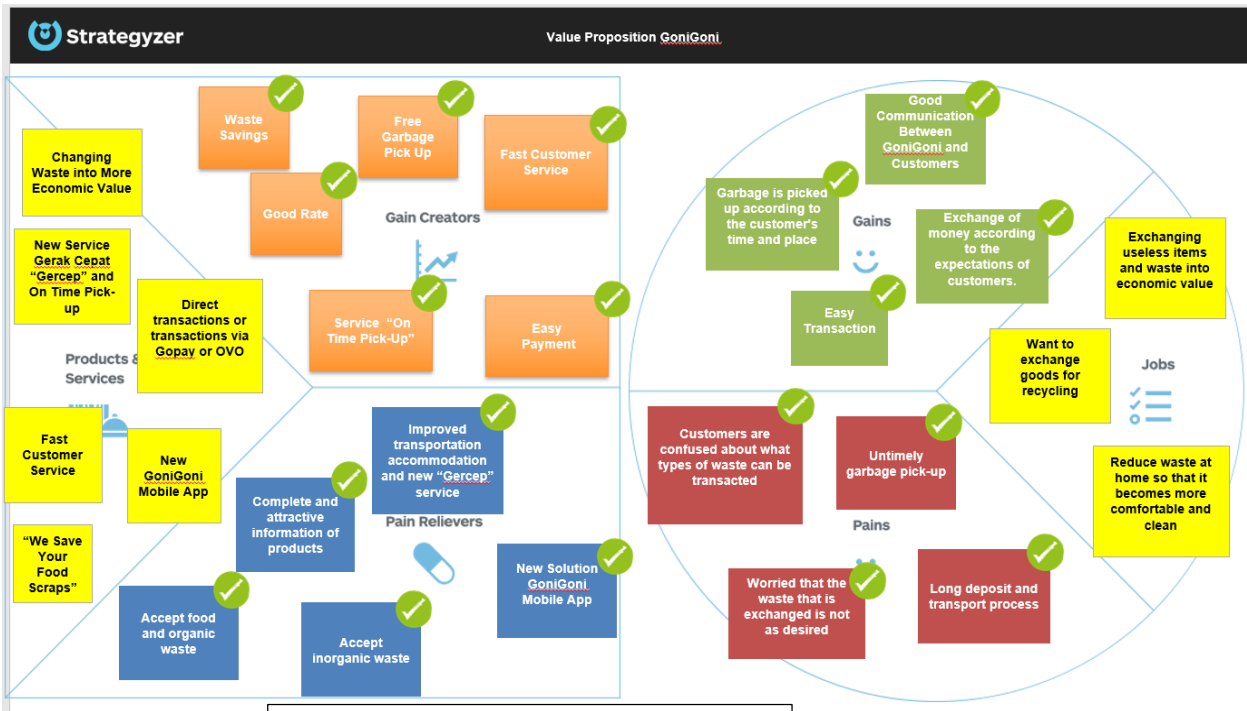


Figure 4. Value Proposition Canvas

Designed for: Improving Business Model | Designed by: Yosafat Y Hia | Date: July-2021 | Version: 2.0



Figure 5. Proposed Business Model Canvas of GoniGoni

AUTHORS' CONTRIBUTIONS

Yosafat Hia, Farda Hasun and Sinta Aryani designed the research. Yosafat Hia collected the data and performed the analysis under the supervision of Farda Hasun and Sinta Aryani. Yosafat Hia and Farda Hasun wrote the paper.

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