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Waste Bank Chatbot Technology

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Abstract. Indonesia became one of the most waste- producing countries globally and was not denied, including countries that are less capable of managing the rest of the life. At the same time, management efforts with the waste bank have been sought. Therefore, we will conduct a repair analysis of the waste bank working system with Trashy Technology chatbot. This research used a literature study method by which we will manage the data from the sources of published literacy. With this technology, it is hoped that Indonesia will be able to streamline performance on the waste bank's working system so that this effort will make an established establishment that has a significant impact on waste management.

Keywords: Waste Bank, Chatbot Technology, Waste Management

1. Introduction

Trash is a very impactful problem in Indonesia. It can mean that garbage is a consequence during life and human activities. During the human activity, still running trash will always be there and always increase the resulting volume. Waste management can be seen from components, subsystems, and relationships that support each other [1]. Trash was produced from household activities usually contain toxic substances or hazardous and toxic materials (B3). B3 is a component of electronic goods such as batteries, electric lamps, pesticide materials, and others that can threaten the health of the environment and human beings [2]. Law number 18 the year 2008 about waste management mentions emphasizing changes to waste management with a trash reduction system or handling using 3R (Reduce, Reuse, Recycle) [3]. We need proper handling due to the monthly trash that occurs based on the number and type of activities. At the next stage, waste handling will significantly influence 3R activities Reuse, Recycle, and Reduce [4]. The waste bank's implementation also has some potential in the economic field with a large amount, namely by providing real info for people who are in the form of employment opportunities [5].

There is a need for participation between community empowerment and country development. Great participation will accelerate the development process. It is a potential

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strategy to improve the economic and socio-cultural level [6]. Waste management with various innovations gave birth to good management and beneficial to the environment. This is an activity that is social engineering, which means the community's role in waste management will wisely affect the reduction of waste volume transported to TPA [7]. In terms of waste management, admins often have difficulties in data acquisition, data delivery, and various information. It will be resolved when the garbage bank changes the concept or system by using an application-based technology that will facilitate data management and activities from the garbage Bank [8]. In the development of cellular technology, the rapid development of mobile is one of the applications. WhatsApp is an application widely used by many people today. WhatsApp also provides some features of sending messages, files, and more. The auto chat feature can be called "chatbot," also available on WhatsApp, which will make it easy for a business account or other activities as it can be applied to the waste bank system [9]. WhatsApp or WA can currently be said to be the main media in the flow of information. It focuses on the occurrence of social distance between communities but will facilitate one's activities and obtain and seek information [10].

With the Waste Bank Management System Improvement analysis, Trashy Technology can manage the trash bank with the application-based system "WhatsApp." It easily conveys the conversation so that it has an effective value of digital concept using "Chatbot" or an automated conversation to facilitate any transaction activity in the form of waste exchange into nominal money. The study used literature study methods, in which we will manage data from the sources of pre-published literation.

2. Method

The method used in Trashy Technology research is the literary study method, with systematic drafting techniques. Data collection can be done using surveys or literature. There are two types of data: primary data containing data obtained directly and secondary data containing supporting data from the source of literature (see Figure 1).

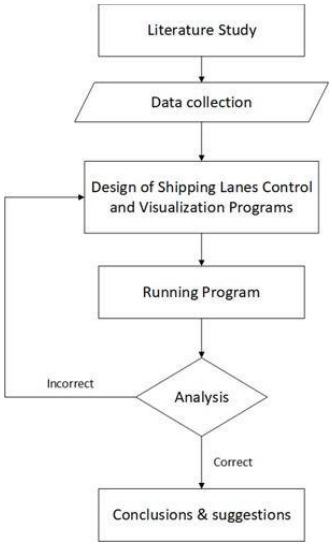

Figure 1. Literature Study Method

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3. Results and Discussion

3.1. Conditions

Garbage is the remnant of human activity that is done in solid-shaped every day. The ever-increasing volume of waste causes garbage handling can have a significant influence at a later stage. Some garbage components that do not go through the 3R stage (Reuse, Recycle, and Reduce) will complicate the transformation process to facilitate storage. B3 garbage or hazardous and toxic materials are substances that can defame and damage the environment. Waste that has explosive nature, flammable, including B3 garbage. Law No. 18 of 2008 on waste management emphasizes the need for a change to handle the waste time restriction and re-utilize.

Social media is a technology that can facilitate users, including information that is easily accessible to the Internet for many people. Social media uses a website or app-based technology to be accessible. It can be noted that there are now many various activities that smartphones can control. WhatsApp is one of the most popular instant messaging apps and is used by many people to communicate both on the web and smartphones. As of February 2016, WA active users are 1 billion per month. The number has increased compared to the number of WA users in January 2015, which as many as 700 million active users per month. WA Daily serves message delivery of 42 billion.

3.2. Efforts Made Along with the Results

There are many benefits from standing up to the garbage bank in Indonesia, both social and economic. The establishment of this garbage bank is already scattered throughout Indonesia. Moreover, almost all waste banks have the same method so that the problems that occur are assessed the same. With the currently considered method, public awareness and less friendly applications become factors that make the bank staff does not go well. Many people still cannot contribute to waste bank as a medium of garbage distribution which should be very effective.

3.3. Presentation of the wastewater treatment plant

3.3.1. Concept

It uses WhatsApp application to support digital waste Bank's establishment by using "Chatbot" technology or an automatic conversation to facilitate the transaction of waste exchange into money and provide information from the manager of trash Bank to the community.

3.3.2. Program

The application is built through Chatbot technology, named 'Trashy.' It is an application that uses a WhatsApp- based platform. Trashy will serve the community ranging from registration into waste Bank customers, the transaction of waste redemption into a nominal form of money. Trashy uses the WhatsApp platform because it is the most widely used platform, ranked second in the world after YouTube. It is because all ages of unlimited age use the target of the chatbot. This application only saves a phone number as an information service

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center. Provision of all information will be presented in chat dialogue from the manager/Officer's trash Bank to the community. Therefore, with this application, active interaction can be done. Figures 2 and 3 show the flow of the Trash Bank management procedure through the WhatsApp application.

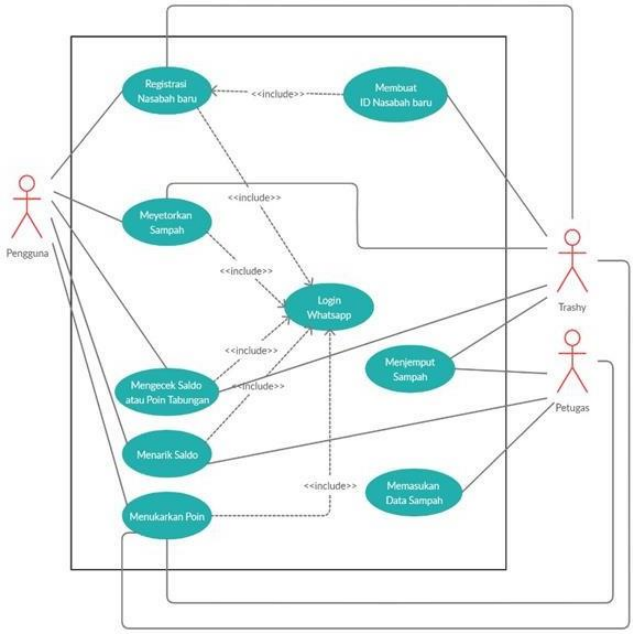

Figure 2. Use Case Diagram Trashy Technology

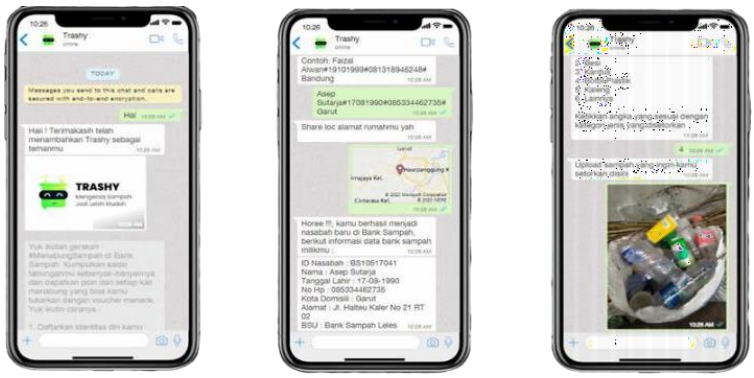

Figure 3. The procedure of waste Bank management through Whatsapp application

3.4. Parties who can help implement ideas

This idea of Trashy Technology will be realized when there is support from the government as the primary control of society and society itself as the main user of this application. With the help and interest that is so well believed, this application will be acceptable and evolving.

3.5. Strategic Steps Required

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This proposal is one of the positive steps. It is hoped that all authorities can read this proposal, especially the government, so that this proposal can be considered a new tool that conciliates the empowerment of the environment and the actual economic improvement manifestation.

3.6. Community Environmental Development

Society is defined as a group of people who share a common goal for fulfilling a particular need, who live and are managed regularly. The group respects each other and considers individuals from others in society. Most importantly, community leaders responsible for helping every program carried out, in this case, are Trashy Technology, depending on the needs of the community and the individual community. Community leaders influence other people to take responsibility for their actions to build a Clean Community environment through social media to implement Trashi Technology.

Community Environmental Hygiene Development refers to partnership initiatives undertaken by communities through companies or external organizations for individual members and community groups by providing skills and technology to these groups. They organize to have a changing effect on the community, which they are involved. This research is about the environmental cleanliness of the community [11-13].

4. Conclusion

Trashy technology will make the efficiency and effectiveness of the garbage bank program increased. This technology has a concept that is unique Santa and easy to use (user friendly). Therefore, this application will facilitate all forms of activities related to the garbage bank's working mechanism to attract many users who will be expected to assist in the reduction or utilization of residual human activity. We can start implementing this application with the education conducted by the related institutions and the government. The education trashy technology application is required for all ages of gadget users. With reduced garbage buildup, it will make the health level of Indonesian society improved. Besides that, the result of garbage collection and recycling is a new economic improvement because we cannot deny that garbage is a thing that continues to be produced every day. The tone of a turnover is long term.

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