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Digital Marketing Communication to Improve Marketing of Candle Products from Waste Management

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ABSTRACT

The issue of used cooking oil waste is currently not as much of a concern as the issue of plastic waste because many people take it for granted. Based on discussions with the Head of RT.15 RW.06 North Kembangan Village, West Jakarta, and also field observations, 220 families in the area have difficulty managing waste from used cooking oil. To overcome this, various efforts were made so that the community had an understanding of the impact of using or disposing of used cooking oil. In addition, the waste of used cooking oil generated has the potential to increase economic empowerment and improve skills in utilizing the waste into candles. The purpose of this activity is to market the candle products produced through digital marketing communication with several stages of the method by conducting socialization and training for the community about the dangers of used cooking oil waste and ways to recycle and manage used cooking oil waste in an environmentally friendly manner. Then apply the technology of filtering used cooking oil so that the community does not wait for the oil to settle too long and create an account on e-commerce as a marketing tool for products made from used cooking oil. The results of this activity show that participants can understand the material provided, and it is hoped that participants can implement waste management from used cooking oil.

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INTRODUCTION

Nowadays, Indonesia is facing quite serious issues related to environmental management; environmental problems need to be addressed as they concern the lives of future generations *(Wahyudin, 2017)*, *(Ardian, 2019)*. Several global environmental issues in the mass media include the increase in renewable energy, reduction of energy consumption, climate change, human waste management, and biodiversity

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(Krajhanzl, 2010), *(Saleh, 2017)*. One of the issues related to community activities is, for example, the increasing human waste management *(Briandana & Saleh, 2022)*.

In this context, waste is the byproduct generated from a production process, whether industrial or domestic (household) *(Aye & Widjaya, 2006)*. *(Kurtela & Antolović, 2019)*. Solid waste usually has management parties, either from the government or the community, while liquid waste typically ends up in drainage systems that lead to rivers and contaminate the soil due to the lack of integrated waste management *(Hana, 2020)*. One type of liquid waste produced by the community is used cooking oil waste *(Andarsih & Mayangsari, 2018)*. Cooking oil is one of the essential staple ingredients for households. The use of cooking oil for cooking is continuously and massively employed on both household and industrial scales *(Agustin & Sunarya, 2021)*. Used cooking oil after cooking produces waste known as used cooking oil. Used cooking oil can generally only be reused a maximum of 3-4 times for frying because it contains harmful chemical compounds *(Santoso, Sugiarti, & Arisandi, 2022)*.

Used cooking oil waste will become an environmental issue if not managed properly. Currently, the issue of used cooking oil waste does not receive as much attention as plastic waste because it is often considered trivial by the public. As happened in RT.15 RW.06 Kembangan Utara Village, Kembangan District, West Jakarta.

Used cooking oil is a liquid waste derived from repeated use of cooking oil, containing harmful chemical compounds such as peroxides, aldehydes, and acrylamides. According to research by Agustin & Sunarya (2021), this waste negatively impacts the environment as it contaminates soil and water and causes drainage blockages, increasing the risk of flooding. Therefore, managing used cooking oil is essential for environmental sustainability and economic potential through recycling into value-added products such as aromatherapy candles. Used cooking oil is discarded because it is considered to have no market value, so it is commonly thrown into drains or sinks. Furthermore, the environmental issue of disposing of used cooking oil in waterways requires attention. The property of used cooking oil that prevents it from mixing with water leads to accumulation and results in the surface of the water being covered by a layer of oil. This causes freezing, which ultimately clogs the drainage channels and leads to sediment buildup in the gutters, making it highly likely for flooding to occur during heavy rainfall.

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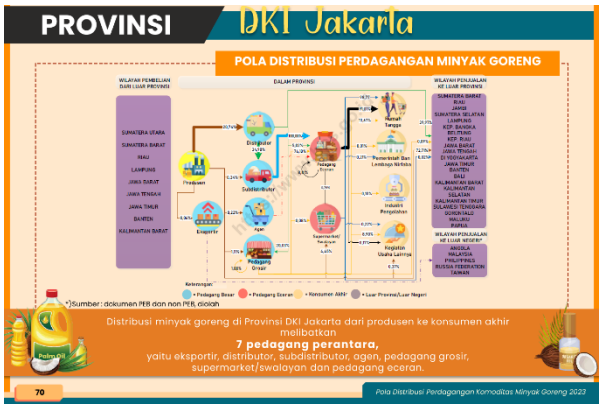

Figure 1. Distribution Pattern of Oil Trade in DKI Jakarta (BPS 2023)

Figure 1 explains the distribution pattern of oil trade from producers to consumers in DKI Jakarta. According to the 2023 BPS statistical data *(BPS, 2023)*, it was recorded that 91.01% of oil sales from Retail Traders, 98.77% from Supermarkets/Hypermarkets, and 13.67% from Wholesalers were purchased by household consumers. Based on research conducted by the Traction Energy Asia research institute on households and micro-enterprises, the potential contribution of used cooking oil producers in DKI Jakarta is estimated to reach 154 thousand Kiloliters (KL) per year *(katadata.co.id, 2024)*.

In this case, there is a situation that needs to be reviewed regarding the issue of used cooking oil waste in DKI Jakarta, specifically in the area of RT 15, RW 06, Kembangan Utara Village, Kembangan District, West Jakarta. Based on discussions with the local neighborhood head and field observations, it was found that out of a total of 220 households in the area, there are difficulties in managing waste from used cooking oil. Moreover, the area is densely populated with very close housing, and the lack of drainage systems creates potential problems in various aspects.

Figure 2. The Existence of Limited Land Amidst Residential Areas and the Condition of Population Density in Housing

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Based on the results of the interview with the neighborhood head and the local community, the residents of RT 15 are facing issues with used cooking oil waste. The community has become familiar with the processing of used cooking oil into various products, such as soap and candles, from previous community service activities. However, its implementation is not yet optimal due to the lack of public knowledge about the dangers of used cooking oil that is continuously used for cooking and disposed of in waterways, the lack of skills among the community in processing used cooking oil into alternative economic resources, as the amount of collected used cooking oil for reprocessing is still relatively small, and the tools or machines for processing it are still simple. This requires time for processing, resulting in an uncertain amount of market-ready products and a lack of knowledge about marketing products through digital communication. The community does not yet have a platform to market the processed used cooking oil into candles. Up until now, the community has only benefited from sales around RT 15. It is very important to address the negative stigma associated with

To encourage activities in waste processing and enhance creativity, several activities were carried out, namely: 1) Counseling on the impact of used cooking oil on health and the environment. 2) Training on making aromatherapy candles from used cooking oil, and 3) Hands-on practice in making aromatherapy candles.

The benefits of conducting this community service activity are that participants are expected to utilize digital marketing to create a sustainable source of income from recycled cooking oil candle products, social media management, content creation, and market analysis. This can inspire more people to engage in used cooking oil waste management through digital marketing communication, thereby enhancing participants' knowledge and skills, opening new economic opportunities, reducing the amount of used cooking oil waste in the environment, and raising awareness about the importance of recycling.

The primary issue faced by the RT.15 RW.06 Kembangan Utara community is the lack of awareness regarding sustainable and eco-friendly used cooking oil management. Previously, candle products made from used cooking oil were marketed conventionally, relying on local sales without an effective marketing strategy. This approach proved inefficient due to limited market reach and lack of promotion. Thus, implementing digital marketing strategies is expected to enhance product competitiveness and expand market reach.

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METHOD

This activity involved 50 participants from the RT.15 RW.06 Kembangan Utara community, consisting of housewives and small business owners. The methods used include:

- Observation and Interviews: Identifying issues related to used cooking oil management and previous marketing approaches.
- Training and Socialization: Providing education on the environmental impact of used cooking oil, candle-making techniques, and digital marketing strategies.
- Technology Application: Assisting participants in creating e-commerce accounts and managing social media as marketing tools.
- Evaluation: Using satisfaction surveys and interviews to assess the program's effectiveness in improving participants' understanding and skills.

After the activities are conducted, there will be support and evaluation to measure the success level of the community service program so that future activities can be carried out more effectively. Additionally, there will be program sustainability through advanced training and the development of digital marketing communication skills within the community.

RESULT AND DISCUSSION

The first activity conducted was a socialization event regarding used cooking oil, held on July 4, 2024, at the PKK RW 06 hall. The socialization regarding the management of used cooking oil began with a presentation explaining the negative impacts of improperly disposing of used cooking oil on the environment. At this stage, the community is introduced to issues such as water and soil pollution caused by discarded cooking oil. Furthermore, the socialization introduces the concept of recycling and sustainable management of used cooking oil, which has the potential for economic added value, by providing examples of products that can be produced from used cooking oil, such as soap, candles, or biodiesel. Then, this activity concluded with the practical application of technology for filtering used cooking oil using an oil filter machine.

Figure 3. Socialization Activities

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Figure 4. Used cooking oil filter machine

After the socialization activities were carried out, the training on processing used cooking oil into candles took place on July 18, 2024, located in the PKK RW 06 hall. In this training, participants go through several stages of activities step by step. First, the participants were divided into several groups and then explained the preparations for processing used cooking oil. Each group of participants is asked to filter the used cooking oil that has been collected to remove any dirt or food residue still present in the oil. After the oil is filtered, they then heat it over a low flame to ensure that the used cooking oil is in a liquid state and easy to mix with other ingredients.

The next step is to mix the heated oil with additional ingredients such as paraffin wax or beeswax, which serve as binders and texture enhancers for the wax. Participants will also be given the opportunity to add natural dyes and fragrances if desired so that the resulting candles have an appealing appearance and scent. Once the mixture is ready, participants will pour it into the pre-prepared candle molds. At this stage, they will also place the wick in the center of the mold so that the candle can be lit after it hardens. After the wax is poured, participants must wait for it to cool and solidify. This process takes time until the candle is truly ready to be used.

Figure 5. Training on processing used cooking oil into candles.

The next activity is a training session on processing used cooking oil into candles, which will take place on August 26, 2024, at the Doctoral Auditorium of Mercu Buana University. The activity began with an introductory session on the basics of

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photography and videography. For the participants, the PKK mothers, they will be taught about basic elements such as lighting, composition, and camera settings. The speaker explains how good lighting can enhance the appearance of candle packaging, as well as how to arrange the background so that the candle becomes the main focus in photos or videos.

After the introduction of the theory, participants are invited to practice taking photos of their candle products directly. They will be guided to try various angles, utilize natural or additional lighting, and set up a simple yet appealing background. After the photography session, it continued with the videography session. In this activity, the PKK mothers will learn how to record videos showcasing candles from various angles, highlighting the packaging details, and how the candles are lit.

Figure 6. Photography and Videography Workshop

This community service activity also provides a technological product to the partner, namely the F-45 GEA GETRA Oil Filter Machine. This machine functions to clean/filter cooking oil so that its lifespan can be extended by 3 to 5 times. In addition, the quality and appearance of the food have also improved. This machine uses compound and filter paper in its operation. Compounds are useful for absorbing fatty acids, peroxides, and polymers in oil, while filter paper is used to separate oil from impurities larger than 5 microns. The processed oil will be pumped back into the fryer.

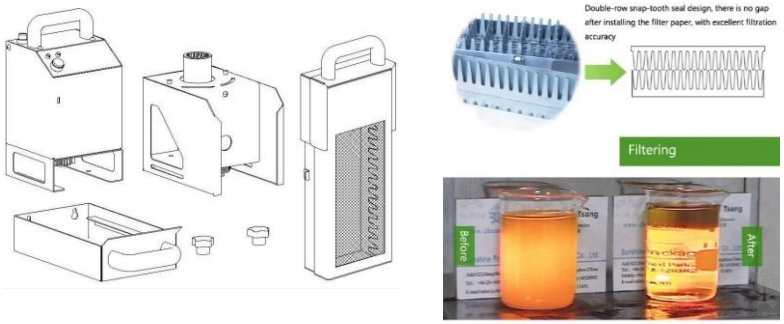

Figure 7. F-45 Oil Filter Machine GEA GETRA

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Based on the results of the community service questionnaire, 82% of participants expressed satisfaction with this community service activity because they gained knowledge and skills related to digital marketing through social media, e-commerce, and online marketing strategies to promote their recycled candle products, which also helped improve the quality of those products.

CONCLUSION

Based on the results of interviews with the neighborhood head and local residents, it was found that many mothers still use cooking oil multiple times for cooking, or that the used oil is consumed directly. In addition, many also dispose of it in the environment, both on land and on the water's surface. The situation is very concerning, considering that it has a significant impact on public health and the surrounding environment. To that end, the Community Service Team undertakes various efforts, including socialization and training on recycling used cooking oil into candles, as well as digital marketing techniques. This activity was carried out in several stages and locations, such as in the RW 06 Hall and the Auditorium of the UMB Doctoral Building. The achievement of the targets from the implementation of this activity shows that overall, this activity can be accepted and applied by the community of RT 15, RW 06. Of course, to achieve more optimal results, ongoing monitoring, evaluation, and support for the process of recycling used cooking oil are necessary.

SUGGESTION

A suggestion for this community service activity is to enhance the implementation of socialization and training for those in the community who have not participated in this activity before. There are still many target partners in North Kembangan who are not aware of the process of recycling used cooking oil into economic products, as well as the diversification of products derived from processed used cooking oil.

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