

Socialization of the Circular Economy Concept and its Implementation in the Urban Waste Management Sector through on Air Talk Shows on Radio Stations

Yonathan Suryo Pambudi^{1*}, Cicik Sudaryantiningsih²

Universitas Kristen Teknologi Solo

Corresponding Author: Yonathan Suryo Pambudi pambudiysp@gmail.com

ARTICLE INFO

Keywords: Circular Economy, Urban Waste Management, Environmentally Friendly

Received : 21, Augustus

Revised : 23, September

Accepted: 25, October

©2023 Pambudi, Sudaryantiningsih:

This is an open-access article distributed under the terms of the

[Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

To implement one of the Tri Dharma of Higher Education, namely Community Service, lecturers in the Environmental Engineering Study Program, Faculty of Engineering, Solo Christian Technology University (UKTS), Surakarta City held community service activities in the form of an on-air talk show on Radio Immanuel 94, 3 FM Surakarta. This activity aims to educate the public about the circular economy concept and its implementation in urban waste management. Two lecturers from the Environmental Engineering Study Program were resource persons in this activity, and one student from the Environmental Engineering Study Program was involved to assist in the necessary technical preparations. This activity is carried out in the odd semester of the 2023/2024 academic year. The implementation of this activity succeeded in providing new information and knowledge to the public about environmentally friendly urban waste management.

INTRODUCTION

Urban waste management is a problem that continues to be faced by urban communities. The circular economy concept is one solution to overcoming the problem of waste management. Based on this, this community service activity aims to introduce the circular economy concept and its implementation in the urban waste management sector through an on-air talk show on Radio Immanuel 94.3 FM Surakarta. The aim of this activity is to 1) Introduce the concept of a circular economy to the public; 2) Introduce the implementation of the circular economy concept in the urban waste management sector; 3) Provide new information and knowledge to the public about environmentally friendly urban waste management. Radio Immanuel 94.3 FM Surakarta was chosen as one of the socialization media or media for conveying information to the public because this radio station has a wide reach and is easily accessible to the public. Apart from that, talk shows on air via radio media can also be an effective means of education and outreach for the public.

IMPLEMENTATION AND METHODS

Based on this, this community service activity aims to introduce the circular economy concept and its implementation in the urban waste management sector through an on-air talk show on Radio Immanuel 94.3 FM Surakarta. In its application, the circular economy concept in urban waste management involves integrated waste sorting, processing and reuse of recyclable materials (Marchi, et al., 2019). This requires collaboration between the government, the private sector and society. Several ways to apply the circular economy concept in urban waste management include developing waste reduction programs, conducting environmental awareness campaigns, facilitating the processing of organic waste into fertilizer, and encouraging the use of renewable energy from processed waste.

RESULTS AND DISCUSSION

The circular economy concept is an approach that combines the principles of sustainability, resource efficiency and waste reduction to create a more sustainable production and consumption system (Bravi, et al., 2019). The application of this concept in urban waste management aims to reduce the amount of waste disposed of in final landfills and increase the reuse and recycling of the materials contained therein (Chen, et al., 2018). This approach promotes the concept of "from waste to resource" by designing systems that allow materials to be reused without discharging them into the environment (Fidalgo, et al., 2019). In its application, the circular economy concept in urban waste management involves integrated waste sorting, processing and reuse of recyclable materials (Marchi, et al., 2019). This requires collaboration between the government, the private sector and society. Several ways to apply the circular economy concept in urban waste management include developing waste reduction programs, conducting environmental awareness campaigns, facilitating the processing of organic waste into fertilizer, and encouraging the use of renewable energy from processed waste (Liu, et al., 2020).

In its application, the circular economy concept in urban waste management involves integrated waste sorting, processing and reuse of recyclable materials (Marchi, et al., 2019). This requires collaboration between government, the private sector and society. Several ways to apply the circular economy concept in urban waste management include developing waste reduction programs, conducting environmental awareness campaigns, facilitating the processing of organic waste into fertilizer, and encouraging the use of renewable energy from processed waste (Liu, et al., 2020).

This community service activity lasts for one hour. The broadcast material was delivered by resource persons, Yonathan Suryo Pambudi, S.T., M.Si., and Dra. Cicik Sudaryantingsih, M.Sc., broadcast material was delivered interactively and was easy for the public to understand. During the broadcast, time was also provided for questions and answers for listeners who wanted to ask questions about waste management and the implementation of the circular economy concept. Some of the questions asked by listeners included the differences between the circular economy concept and conventional waste management, what are the benefits of applying the circular economy concept in waste management, what are the obstacles in applying the circular economy concept in waste management in big cities, how to sort and managing waste properly according to the circular economy concept that can be carried out by people in their daily lives, and whether the circular economy concept can be applied in all industrial sectors. The following is a summary of listener questions and answers from speakers:

1. What is the difference between the circular economy concept and conventional waste management?

Interviewee's answer: The circular economy concept focuses more on reusing and recycling waste as a resource, while conventional waste management focuses more on disposing of waste to final landfills.

2. What are the benefits of applying the circular economy concept in waste management?

Interviewee's answer: The benefits of applying the circular economy concept in waste management include reducing negative environmental impacts, increasing the availability of raw materials, and reducing waste management costs.

3. What are the obstacles to implementing the circular economy concept in waste management in big cities?

Interviewee's answer: The main obstacle to implementing the circular economy concept in waste management in big cities is the lack of public awareness and concern regarding the importance of sorting and managing waste properly.

4. How can people properly sort and manage waste in their daily lives?

Interviewee's answer: Correct ways of sorting and managing waste that people can do in their daily lives include sorting organic and non-organic waste, processing their organic waste into compost using various technologies, reusing used goods that are still suitable for use, recycling items that can still be recycled, and avoid using single-use items that are difficult to

recycle. Apart from that, the community can also support sustainable waste management programs launched by the regional government and local environmental organizations.

5. Can the circular economy concept be applied to all industrial sectors?

Interviewee's answer: The circular economy concept can be applied in various industrial sectors, such as manufacturing, agriculture, energy and transportation. Examples of implementation are the use of recycled raw materials, reducing waste by using efficient production systems, using renewable energy, and using sustainable transportation systems.

This community service activity through an on-air talk show on Radio Immanuel 94.3 FM Surakarta succeeded in providing new information and knowledge to the community about environmentally friendly urban waste management. This can be seen from the many questions and interactions that occurred during the broadcast.

CONCLUSIONS AND RECOMMENDATIONS

The circular economy concept can be an effective solution to overcoming urban waste management problems. Therefore, there is a need for wider socialization and education to the public, both by the government, universities and non-governmental organizations about the circular economy concept and its implementation in the urban waste management sector. It is recommended to hold regular outreach activities to the community to increase community awareness and participation in waste management.

ACKNOWLEDGMENT

The author would like to thank the leadership and announcer of Radio Immanuel 94.3 FM Surakarta and all listeners who have participated in supporting the implementation of this community service activity.

REFERENCES

- Bravi, M., Cutaia, L., & Orecchio, D. (2019). Circular economy in the waste sector: An Italian case study. *Journal of Material Cycles and Waste Management*, 21(5), 1135-1146. <https://doi.org/10.1007/s10163-019-00877-w>
- Chen, X., Hu, Y., Ji, J., & Chen, X. (2018). Circular economy in China's urban mining: A comparative analysis of recycling and disposal of copper and gold tailings. *Journal of Material Cycles and Waste Management*, 20(2), 1161-1172. <https://doi.org/10.1007/s10163-018-0711-y>
- Fidalgo, B., Orive, M., & Otero, M. (2019). Circular economy in the municipal solid waste management sector: A comparative analysis of the European Union countries. *Journal of Cleaner Production*, 232, 1311-1323. <https://doi.org/10.1016/j.jclepro.2019.05.322>

- Li, J., Liang, S., Li, X., & Huang, G. (2019). Towards a circular economy: Municipal solid waste management in China. *Journal of Cleaner Production*, 227, 1217-1228. <https://doi.org/10.1016/j.jclepro.2019.04.058>
- Lim, S. J., & Limmeechokchai, B. (2019). A circular economy approach to municipal solid waste management in Southeast Asia: The case of Thailand. *Resources, Conservation and Recycling*, 143, 48-59. <https://doi.org/10.1016/j.resconrec.2018.12.003>
- Liu, M., Liu, L., Zhang, C., & Luo, G. (2020). Circular economy in China's municipal solid waste management: A review. *Journal of Material Cycles and Waste Management*, 22(2), 222-235. <https://doi.org/10.1007/s10163-019-00931-6>
- Marchi, M., & Tugnoli, A. (2019). Implementing circular economy principles in waste management: A review of Italian best practices. *Waste Management*, 94, 61-75. <https://doi.org/10.1016/j.wasman.2019.06.003>
- Mol, L., & Oosterhuis, F. (2020). Building a circular economy by closing the loop: Evidence from the Dutch paper and board industry. *Journal of Cleaner Production*, 242, 118458. <https://doi.org/10.1016/j.jclepro.2019.118458>
- Pambudi, Yonathan Suryo, & Sudaryantiningasih Cicik (2017). Push factors of community participation in the management of waste bank in the city of Surakarta, Central Java province, Indonesia. *Russian Journal of Agricultural and Socio-Economic Sciences*, 68 (8), 34-40. doi: 10.18551/rjoas.2017-08.06.
- Pambudi, YS, & Krismani, AY. (2017). Pengaruh Faktor Predisposition, Enabling, dan Reinforcing Terhadap Perilaku Masyarakat Perkotaan Mengelola Sampah Rumah Tangga yang Dimediasi oleh Variabel Motivasi. *Jurnal Kesehatan Kusuma Husada*, 8 (1), 22-34.
- Pambudi, YS, Purnama, Y., Dwijendra, NKA, Kholifah, S., & Caniago, A. (2020). The effect of internal factors on the improvement of the role of the community and the quality of waste bank management "Mekar Asri" in Rt. 5 RWs. XVI, Mojosoongo Sub-district, Surakarta city, Indonesia. *Test Engineering and Management*, 82 (14695), 14695-14703.

Pambudi, YS. (2023). Mencapai Pengelolaan Sampah Perkotaan Berkelanjutan Panduan Lengkap. Indramayu : CV. Adanu Abimata.

Sarker, M., & Alam, M. A. (2020). Challenges and opportunities of circular economy: A review. *Journal of Cleaner Production*, 262, 121314. <https://doi.org/10.1016/j.jclepro.2020.121314>