

Asoka V Waste Bank as a Pillar of Urban Environmental Empowerment: A SWOT Analysis of Waste Sorting in Makassar City

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Abstract

The waste problem in Makassar City is increasingly complex, especially due to the increasing volume of waste that accumulates at the Antang Final Disposal Site (TPA). This condition requires a more effective waste management strategy, one of which is through optimizing the role of the Waste Bank. This study aims to analyze the strengths, weaknesses, opportunities, and threats (SWOT analysis) of the Asoka V Unit Waste Bank as one of the best waste banks in Makassar City. The research uses a descriptive qualitative method with data collection techniques through in-depth interviews, observations, and documentation. The results of the study show that the Asoka V Unit Waste Bank has strengths in the form of adequate facilities and continuous collaboration with private parties such as Pegadaian, while the weakness lies in the decline in the support of the village government. The opportunities are obtained from the support of the Environment Agency and increasing public awareness of waste management, while the threat comes from the increasing volume of waste and the lack of active participation of some residents. This research emphasizes that multistakeholder synergy is the key in strengthening the role of Waste Banks as an alternative solution in reducing the burden of waste at the Antang Landfill.

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1. INTRODUCTION

Waste management is a challenge for urban areas in Indonesia, including Makassar City. Law No. 18 of 2008 and Government Regulation No. 81 of 2012 stipulate the obligation to sort household waste from the source [1], [2]. The Ministry of Environment and Forestry (KLHK) through Regulation of the Minister of Environment and Forestry P.75/2019 targets a 30% waste reduction by 2029, which requires the implementation of effective sorting at the community and business levels [3].

Makassar City has developed various initiatives, such as the establishment of a Central Waste Bank UPTD [4] and a network of hundreds of waste bank units. Furthermore, digital innovations like MallSampah strengthen the recycled material supply chain [5]. However, various problems such as low citizen participation, limited sorting facilities, and inconsistent transportation services still hamper the program's effectiveness.

Based on these conditions, this study conducted a SWOT analysis to map the strengths, weaknesses, opportunities, and threats in the waste sorting system in Makassar City as a basis for strategies to improve management.

2. RESEARCH METHODS

- a. This research uses a descriptive-qualitative approach with a SWOT analysis framework. Location and Informants: The research location is in Makassar City, with key informants consisting of
- b. Makassar Environmental Service Officials
- c. Managers of the Central Waste Bank UPTD and waste bank units
- d. Asoka V Waste Bank

3. RESEARCH RESULTS AND DISCUSSION

The analysis shows that:

- Strengths: Existence of the Central Waste Bank UPTD, waste bank unit network, regional policy support, community partnerships, recycling application integration [4], [5].
- Weaknesses: Inconsistency of sorted transport, limited facilities, low economic incentives [6].
- Opportunities: National waste reduction target of 30% (P.75/2019) [3], SIPSN data support, circular economy potential.
- Threats: Increase in urban waste generation, dependence on landfills, volatility in prices of recycled materials [6].

3.1. Research result

The Asoka V Waste Bank Unit, located on Jalan Kumala 2B, Tamalate District, was established in 2015. Its formation began with the Mabello Alley Competition, one of the activities in the Makassar Green and Clean program initiated by the Mayor of Makassar. In the competition, the existence of a Waste Bank was one of the assessment aspects. Following this, the local Village Head at that time ordered the establishment of a Waste Bank Unit, and the leadership appointment fell to Mr. Faisal, who at that time served as the Head of the Neighborhood Association (RW).

Before leading the Waste Bank, Mr. Faisal had been active in various environmental awareness activities with volunteers, fostering a strong interest in waste issues. This interest led him to become directly involved in managing the Asoka V Unit Waste Bank.

To date, the Asoka V Waste Bank Unit has around 90 customers. Mr. Faisal, as director, consistently conducts outreach to change the public's perspective on waste. In its operations, the Waste Bank receives support from representatives of the Peduli Negeri Foundation and motivators from the Environmental Agency, who act as facilitators.

3.2. Discussion

A good organization will design a strategy by considering internal factors such as strengths and weaknesses, as well as external factors such as opportunities and threats. Organizational strategy is a pattern or plan that integrates the main objectives or policies of the organization with a series of actions in a mutually binding statement related to general principles to achieve the organization's mission (Wibisono, in Lynch, 2006).

According to Dwi Prastowo, analysis is defined as the breakdown of a product into its various parts and the examination of the parts themselves, as well as the relationships between the parts to obtain a proper understanding and comprehension of the overall meaning. Suharso and Ana Retnoningsih (2005), analysis is an investigation into an event to find out the actual situation (causes, circumstances, and so on).

From the several definitions above, it can be concluded that analysis is the process of solving a problem (through reason) into its parts based on a consistent method to achieve an understanding of its basic principles.

Strategy, according to Husein Umar, is a process of determining the plans of top leaders that focus on the long-term goals of the organization accompanied by the preparation of a method or how to achieve these goals. According to Steiner and Miner quoted by Yosol Iriantara, strategy is the formulation of the mission, goals and basic objectives of the organization, its program strategies and policies to achieve them and the methods needed to ensure that the strategy is implemented to achieve the organization's goals.

From the several definitions above, it can be concluded that strategy is a method used by decision makers to achieve competitive advantage against external opportunities and threats as well as internal strengths and weaknesses that can influence the organization with reference to the vision, mission and goals of the organization concerned.

Based on the above, it can be concluded that strategic analysis is a process of investigating the methods used by an organization to achieve competitive advantage against external opportunities and threats as well as internal strengths and weaknesses that can affect the organization.

SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis is the most popular analytical tool, particularly for strategy formulation. Its fundamental assumption is that organizations must align their internal activities with external realities to achieve their stated goals. Opportunities are meaningless if the organization cannot utilize its resources to capitalize on them.

A SWOT analysis is a systematic study of a company's internal strengths and weaknesses, along with the environmental opportunities and threats facing the organization. A SWOT analysis also serves as a tool for strategic planners to formulate and implement strategies to achieve goals.

In a SWOT analysis, a comparison is made between internal and external factors to obtain strategies for each of these factors. A SWOT analysis not only identifies the competencies (capabilities and resources) possessed by an organization, but also identifies opportunities that have not been implemented by the organization due to limited resources. When applied accurately, this simple assumption has a huge impact on the design of a reliable strategy. The tool used in compiling organizational strategy factors is the SWOT matrix.

This SWOT analysis can only help analyze the situation currently being faced by an organization and is not a definite answer that can provide a solution to every problem faced, but at least it will solve the existing problem by breaking it down into smaller parts that will appear simpler.

Based on this explanation, a SWOT Matrix can be created according to the interview results at the Asoka V Unit Waste Bank, as follows:

SWOT Analysis Matrix Table for Unit Waste Bank

Internal Factors	Strengths (S)	Weakness (W)
	<ol style="list-style-type: none"> Office facilities and waste sorting room There are garbage collection tools in the form of Viar and carts and scales. Cooperation with Pegadaian 	<ol style="list-style-type: none"> Lack of support from local government There are no employee operations.
External Factors		
Opportunities (O)	SO Strategy	WO Strategy
<ol style="list-style-type: none"> Collaborating with various parties to form discussion forums on waste and the environment Recycling training that builds creativity 	<ol style="list-style-type: none"> Maximizing recycling training for customers Maximizing outreach to the surrounding community 	<ol style="list-style-type: none"> Regularly innovating for customers Local government support for BSU Asoka V to progress further
Threats (T)	ST Strategy	WT Strategy
<ol style="list-style-type: none"> Endless garbage There are still not enough local residents who become customers There is competition with the Trash Mall 	<ol style="list-style-type: none"> Optimizing existing facilities so that the management process runs smoothly Conducting outreach to the local community regarding the economic benefits of selling waste to the Waste Bank The digitalization of the Waste Bank is carried out in conjunction with weekly waste weighing at BSU Asoka V. 	<ol style="list-style-type: none"> Coordinate with local government Consistent in commitment to forming training and education forums for the community

a) Strengths

The Asoka V Waste Bank Unit's primary strength is its adequate facilities, from administrative offices and transportation to waste sorting facilities. This capability has been further strengthened through a strategic partnership with Pegadaian since 2018 through the *“Sorting Trash, Saving Gold”*. This collaboration not only provides facilities and CSR funding support, but also improves the image and operational sustainability of BSU Asoka V as one of the best waste banks in Makassar City.

Based on the interview above, it can be concluded that the collaboration with Pegadaian through the "Sorting Waste, Saving Gold" program is the main program used by the Asoka V Unit Waste Bank to achieve organizational goals.

The mechanism for exchanging waste for gold includes:

- Household waste sorting. Waste sorting based on organic and inorganic waste types.
- Depositing waste to the Asoka V Unit Waste Bank. Depositing waste based on the schedule or amount of waste.

- Weighing waste. Weighing to determine the total weight of waste that has been sorted and collected.
- Calculation of waste value. Calculation of waste weight value into gold savings book.
- Convert and save in gold savings. Convert the weighed rupiah into gold savings.
- Processing into recycling. Processing into recycling waste

In addition to saving gold, residents can also exchange the proceeds from their waste sorting for electricity tokens, phone credit, and data packages. As we know, Pegadaian now offers not only credit and pawn services but also payments for electricity, water, internet, and mobile phone data packages.

With the variety of services provided by Pegadaian, BSU Asoka customers also have various options for the results of their waste sorting, not only in the form of cash as applies to other Unit Waste Banks.

Through interviews and observations, researchers saw that the presence of Pegadaian in the scope of Asoka V waste management was the main strength for the sustainability of the waste bank. At least they provided reinforcement or support for the sustainability of the vision and mission implemented by Asoka V. This strengthens a theory that one of the supporters of a policy or program is also influenced by external factors. As stated by Alwi in Collaboration and Policy Performance (2008:1) public policy makers and implementers are always faced with the complexity and dynamics of problems and the fulfillment of public needs. Strength is an advantage possessed by a resource in this case, what is meant is the Asoka V Unit Waste Bank. Conditions like this place the government no longer as the main player in the implementation of public services and policies, but rather synergizes with other actors or stakeholders in the implementation.

b) Weakness

Weaknesses are limitations/deficiencies in resources, skills, and capabilities that seriously hinder a company's effective performance (Augustinus: 1996). These limitations and deficiencies can be seen in the facilities and infrastructure it possesses or lacks, poor managerial skills, or programs that are unpopular or underutilized. A company should be able to mitigate or minimize weaknesses. It is important for an organization to be aware of its weaknesses so it can improve or address any deficiencies in its development.

The primary weakness of the Asoka V Waste Bank lies in the diminishing support from the local government, particularly the sub-districts, which previously played a key role in the initial formation and outreach process. However, this gap was filled by the Environmental Agency by assigning mentors to each sub-district to monitor and support the Waste Bank's activities. Thus, despite the decline in support from the sub-district government, the Environment Agency's presence helps maintain continuity and oversight of the performance of the Asoka V Waste Bank.

The existence of a motivator as an extension of the DLH is one of the efforts to increase the quantity of community participation to want to join as a customer of the Asoka V unit waste bank. It cannot be denied that increasing the number of customers is certainly important. However, maintaining customers to continue to consistently save is certainly not an easy thing. From the results of observations, data, and connected with the theory in Augustine: 1996 which states that weakness is a limitation or lack of resources that hinders the effective performance of a company, the researcher found that participation is a weakness of the Asoka V Unit Waste Bank.

This is one of the weaknesses of the Asoka V Unit Waste Bank. There is no significant increase in the number of customers at the Asoka V Unit Waste Bank from year to year.

The table above shows no significant change in the number of customers. The number of new customers increased in 2020, increasing to 50, up from 30 previously. The Director of Bank Sampah Unit Asoka V also acknowledged that the current number of customers is still below the target.

"The current number of customers is around 90, out of a total target of around 300 families in RW 5. We haven't even reached 50% of the total." (Faisal Baso, September 29, 2023)

However, this isn't a significant obstacle; the process of changing a societal paradigm is no easy task. It requires significant effort and a long period of time to achieve success.

From the results of interviews, observations and in connection with the theory above, it can be seen that the weaknesses of the Asoka V Unit Waste Bank are:

1. Lack of support from the local government.
2. There are no employee operations.
3. The number of customers is still insufficient.

Based on the explanation and strength points obtained by the researcher, it can be concluded that the waste management process at the Asoka V waste bank unit has not been supported by the involvement of the local community. This could be a factor hampering the improvement of waste management performance in the Asoka V environment. As stated by Wibisono's theory (2006) that weaknesses are negative things in the body of the organization, such as weaknesses in business processes, the number and quality of human resources, gaps in the team, and the absence of valuable assets. Performance is the level of success between work results, targets or goals. The performance of the Asoka V Waste Bank Unit can be seen from: Increasing the number of customers, increasing the amount of waste managed, and increasing the income of the Waste Bank. Increasing the number of customers is a very important thing, meaning how many people care about this waste problem. Therefore, the Asoka V Waste Bank needs to create an alternative to cover these weaknesses.

c) *Opportunities (Opportunity)*

Opportunities are key connecting situations within a company's environment (Augustinus: 1996). Examples include significant trends within society or the identification of a market segment that has yet to receive attention (Siagian: 2000). By recognizing these elements, organizations can develop strategies to capitalize on existing opportunities, thereby developing and facilitating the achievement of organizational goals and success. Based on the theory above, it can be seen that the opportunities that Asoka V Waste Bank Unit can capitalize on are by collaborating with various parties and fostering creativity and innovation, thereby serving as a role model for other Waste Bank Units.

The Asoka V Waste Bank Unit prioritizes cooperation and collaboration as a key strategy in implementing its program, with the goal of building a network of stakeholders concerned with waste issues in an equal and sustainable manner. This perspective aligns with the Environmental Agency, which provides flexibility for the Waste Bank Unit to partner with various parties, both government and private, to shift the public's paradigm regarding waste.

As stated by Ellitian and Anatan (2009), innovation is defined as changes made within an organization that include creativity in creating new products, services, ideas,

or processes, both existing within the organization and developed from outside the organization. The Asoka V Waste Bank Unit requires innovation as an opportunity. This innovation is in the form of establishing environmental-themed forums and events as a forum to encourage and motivate the community to participate in this waste problem. For example, the Bosowa School Green Festival 2023 and the Kalla Youth Fest 2023. These two activities can and will be implemented thanks to the collaboration carried out by the management of the Asoka V Waste Bank Unit with private parties such as Bosowa and Kalla.

In addition, the position of the Asoka V waste bank, known as one of the outstanding Waste Banks, has become an added value for them to develop, such as successfully winning an award as the best Waste Bank at the national level by the Ministry of Environment and Forestry in commemoration of National Waste Awareness Day in June 2023. This appreciation was given because the Asoka V Waste Bank Unit has performed well in actively educating the implementation of a circular economy in the surrounding community. Together with other parties, the Asoka V Waste Bank Unit also diligently holds activities to build community creativity, one of which is by conducting recycling training. As we all know, the Waste Bank program is a government strategy to address waste problems by implementing the 3R system Reduce, Reuse, Recycle.

Based on the results of interviews and observations conducted, the existence of socialization and education activities provided in addition to introducing this Waste Bank program, also to provide a better understanding to the community about how to recycle waste and the procedures for managing the Waste Bank itself. During the socialization opportunity, the management of the Asoka V Unit Waste Bank also invited other parties to create their own Unit Waste Bank which of course will be fostered by BSU Asoka V. This is in line with information obtained from the source. As is known, the existence of opportunities or chances is an external factor that contributes to business success, such as the presence of events or phenomena that can be promotional opportunities, increasing the number of requests, as well as supportive market, economic, and political situations. In addition to collaborating in terms of socialization with various activities and socializations carried out by the Asoka V Unit Waste Bank has become one of the best Unit Waste Banks in Makassar and even at the national level. This is of course because the Asoka V Unit Waste Bank is adept at seeing and utilizing existing opportunities. Therefore, the existence of opportunities to be able to collaborate with other parties by promoting their achievements and performance achievements needs to be maintained by the Asoka V Unit Waste Bank.

d) Threats

A threat is a major unfavorable situation within a company's environment (Agustinus: 1996). A threat arises when conditions in the external environment jeopardize the reliability and profitability of a company's business, which can increase vulnerabilities when dealing with weaknesses. When a threat arises, stability and survival can be at stake. Examples include the entry of new competitors and technological developments and changes that have not yet been mastered (Saigian: 2000).

It's important to understand that this waste problem isn't easy to address. The daily increase in population naturally increases the volume of waste produced. In contrast to this ever-increasing and never-ending volume of waste, the threat is the dwindling number of customers consistently weighing their waste.

"Waste sorting is an activity we do in our free time. I have easy access to cardboard and plastic waste because I have a kiosk. So, I'm one of the customers who actively weighs them at BSU Asoka V. Many other customers find the collection process boring." (Rumiati, October 2, 2023)

Another threat is competition with scavengers, collectors and Mall Sampah (a waste buying and selling application) which was established in 2015 and has a slightly higher selling value and can be accessed via smartphone.

Based on the interview results, the researcher concluded that the presence of other waste management companies or waste management application features could pose a threat if not addressed. For local residents, who are mostly housewives, the emergence of the Waste Mall application itself is not a threat, as many of them are technologically illiterate and do not understand how the application works. However, this poses an external threat, as Waste Mall also targets the younger generation. Many young people are more attracted to the Waste Mall program because of the convenience offered by simply downloading the application via smartphone. As stated by Wibisono (2006), a threat is a major unfavorable situation in an organizational environment. If not addressed, the threat will become a stumbling block for the business unit concerned, both for the future.

4. CONCLUSION

Waste sorting in Makassar City has significant potential, supported by institutional infrastructure and digital innovation. However, challenges in behavior, facilities, and coordination need to be addressed with an integrated strategy based on the results of a SWOT analysis. This study recommends integrating technology, improving incentives, and strengthening community participation to achieve national waste reduction targets.

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