



Diffusion Analysis of Innovation in the Implementation of Hygiene Programs: A Case Study of the Bangkalan Initiative

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ARTICLE INFO

Keywords: Diffusion, Innovation, Hygiene

Received : 31, December

Revised : 14, January

Accepted: 26, January

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ABSTRACT

This study aims to analyze the process of diffusion of innovation in the implementation of hygiene programs in Bangkalan Regency, to understand how hygiene innovations are accepted and adopted by the local community as well as the challenges faced in the cleanliness program implemented by the Bangkalan Initiative Community, to find out how much influence the success and failure of diffusion of hygiene innovations, including public awareness, limitations of infrastructure, and participation in environmental cleanliness programs. This study uses a descriptive method with a qualitative research type. The types and sources of information used in this study are using 2 types, namely primary data and secondary data. Initial information obtained from the first source of information or field hands, then we obtained this secondary information based on observations from podcasts along with documentation on Bangkalan social media initiatives such as: YouTobe, Instagram, and Tik Tok. The results of the study show that although there are a number of efforts to increase public awareness and provide hygiene facilities, the low level of community participation and limited human resources (HR) are still the main obstacles. Therefore, a more interactive innovation diffusion strategy that involves direct community participation in each stage of the program is urgently needed to increase the effectiveness and reach the cleanliness program in Bangkalan. This study provides recommendations for improvements in the design and implementation of a more inclusive and sustainable hygiene program. The Bangkalan program initiative has a great impact in the field of cleanliness, especially the Bangkalan community. The first step in the process of diffusion of innovation in the Bangkalan cleanliness initiative is the role of education, especially educators, which is the main factor.

INTRODUCTION

Diffusion is a social process that occurs in society in response to learning about innovation, such as new approaches to expand or improve things. Researchers are of the view that the time for the diffusion of hygiene innovations can be shortened if the community is ready to face change with higher literacy skills. Although, the time for adoption could be shorter due to the convergence of national attention, (Kohardinata dkk, 2015:56).

Innovation in the field of hygiene in Indonesia has become an important pillar in driving economic growth and improving the quality of life of the community. Hygiene innovation plays a key role in improving environmental cleanliness in Indonesia. Previous research shows that with the innovation of this waste cleaning service alarm, it can protect the community from the threat of disease and make the environment clean and healthy. Household communities no longer need to wait for garbage trucks whose scheduling is irregular and thus the community's mindset in disposing of garbage will be better. The community's indifference towards waste can be reduced by this alarm, because they are always reminded of the garbage disposal schedule, (Nurcahyo et al., 2020:55)

Diffusion is a kind of social change, defined as the process by which changes occur in the structure and functioning of social systems. When new ideas are created, disseminated, and adopted or rejected, causing certain consequences, social change occurs, (Rogers, 1971: 10 in . Rohimah, et al. 2019:4)

Along with the rapid development of hygiene innovations, East Java is increasingly showing great potential in creating innovative solutions that can increase productivity and efficiency in the field of hygiene. The implementation of cleanliness in East Java includes various efforts made by local governments, communities, and private institutions to improve environmental cleanliness. This can include programs such as, innovating in improving public services in the field of the environment. In addition to improving the quality of the environment, these innovations have also resulted in various awards and become the subject of comparative studies from various regions in Indonesia. These innovations in the field of environment are carried out to improve public services. In fact, a number of these innovations have achieved achievements at the provincial and national levels. Waste management and recycling program with the principle of multi-stakeholder partnership and collaboration in East Java, (Abd. Hadi, 2023:4)

The implementation of the cleanliness program in East Java is one of the efforts to improve the quality of life of the community and maintain environmental sustainability. Previous research has shown that an effective hygiene program requires active participation from the community. To protect and tolerate the environment, this agency develops policies, oversees their implementation and works with other organizations such as TPS and TPA (Salsabila dkk., 2024:160).

Previous research has shown that the success of hygiene diffusion in Madura often depends on the role of local leaders and customary institutions. Access to modern hygiene diffusion is often limited in rural areas of Madura due to inadequate infrastructure, hindering widespread adoption of the technology.

According to the success of hygiene diffusion in Madura, it is more influenced by adaptation to local culture, which includes the traditional beliefs and values of the Madura people. Yudistira,dkk (2023:23).

Cleanliness innovation is an important factor in encouraging economic growth and development of the Madura region. In the previous study, the hygiene sector built a Final Disposal Site (TPA) for hygiene management. The management of the landfill is formed by the village government, with a contribution system charged to each household member. The field of environmental cleanliness builds a Final Disposal Site (TPA) and cleans the village once a week. Innovation and education from the modern salt making process, (Utaminingsih, dkk. 2020:178) .

Hygiene diffusion in Bangkalan Regency is an important process that affects the social and economic development of the local community. In the context of Bangkalan Regency, local factors such as the availability of infrastructure, government support, and community participation greatly affect the rate of adoption (Bandono, dkk. 2017:80).

Hygiene innovation is a key factor in the development and improvement of the quality of life of the community. Previous research has shown that the implementation of hygiene innovations in the education sector in Bangkalan has had a positive impact. The implementation of hygiene innovations in tourism management in Bangkalan Regency has a significant positive impact in supporting efforts towards sustainable tourism (Novia Jamilati, et al. 2023:130). There are many types of innovations, one of which is the cleanliness program. Where Bangkalan district has a community engaged in cleanliness, namely the Bangkalan Initiative community.

The Bangkalan Initiative Cleanliness Program Community is an initiative of Bangkalan is a community engaged in cleanliness and environmental care programs in Bangkalan, East Java, namely the Bangkalan Initiative has collaborated with BPJS Ketenagakerjaan to carry out *Employee Volunteering* activities with the theme "Improve the Cleanliness of Bangkalan Starting From Me Continue Dikamu", the Bangkalan Initiative has participated in beach cleanup actions at Goa Pitapa Beach, Bangkalan, which was organized by UKMKI Universitas Airlangga (UNAIR), and the Bangkalan Initiative once opened a booth at Madura Expo 2024 to show the public about TPST Samtaku.

The history of the formation of the Bangkalan initiative started from the trigger (Impact of pandawara) related to waste collection, but previously the discussion for waste collection had been discussed and became a general discussion. But it still hasn't moved (Jumping into the Field). Then at one time tried to jump directly but did not use the name of the initiative, where at the time of this experiment brought a crowd which in the end this activity continues to this day because *the feedback* from the community is very positive and continues to become a Bangkalan initiative community. This Bangkalan initiative is moving in several schools and the hope is at the Education Office. which legalizes environmental learning which is made as a priority learning).

THEORETICAL REVIEW

The term “diffusion of innovation” consists of two synonymous terms: “diffusion” and “innovation”. Rogers (1983) defines diffusion as the process by which an innovation is spread over time among members of a social system through certain channels. Furthermore, diffusion can be seen as a type of social change, namely the process of change that occurs in the structure and function of a social system. Innovation is an idea, practice, or object that is perceived by an individual or group as something new. What may seem new to one person in terms of an idea, practice, or object, may not be new to another. It all depends on what the individual or group thinks about an idea, practice, or object. From the two synonyms above, we can see that the spread of innovation occurs continuously from one place to another, from one era to another, from one particular region to another, from one group of members to another group of members. We can conclude that the spread of innovation is a social process in which groups. Social systems. The main purpose of the diffusion of innovation is to adopt innovation (scientific, technological, and social developments) by members of a particular social system. Social systems consist of individuals, informal groups, organizations, and even societies. Spreading new ideas and things with the aim of bringing about change.

Elements of Innovation Diffusion According to Rogers (1983), there are four main elements in the innovation diffusion process, namely: Namely, an innovation that occurs among members of an organization and is spread through certain communication channels over a certain period of time. Social system.

1. An innovation (idea, action, or object) that is considered new by someone. In this case, the novelty of an innovation is measured subjectively, based on the opinion of the individual who receives it.
2. Communication channels are tools used to convey innovation messages from source to recipient. If the purpose of communication is to convey an innovation to a wide audience, then mass media is a more appropriate, fast, and efficient communication channel. However, if the goal is to bring about personal changes in the attitudes or behavior of recipients through communication, then interpersonal channels are the most appropriate communication channels.
3. Time horizon, namely the decision-making process regarding an innovation from the time the innovation is discovered to the decision to accept or reject it. Confirmation of a decision is closely related to the aspect of time. At least, the time dimension is seen in (a) the decision-making process regarding innovation, (b) the willingness of individuals to innovate (relatively early or slow adoption of innovation), and (c) the speed at which the innovation is adopted by society. Social systems.
4. A social system is a collection of functionally distinct units that solve problems and achieve common goals through cooperation.

The following is the conceptual framework in this study, it can be seen that the research flow starts from initial observations to determine the preparation of the researcher and the object to be studied, followed by data collection through interviews with sources using a persuasive approach.

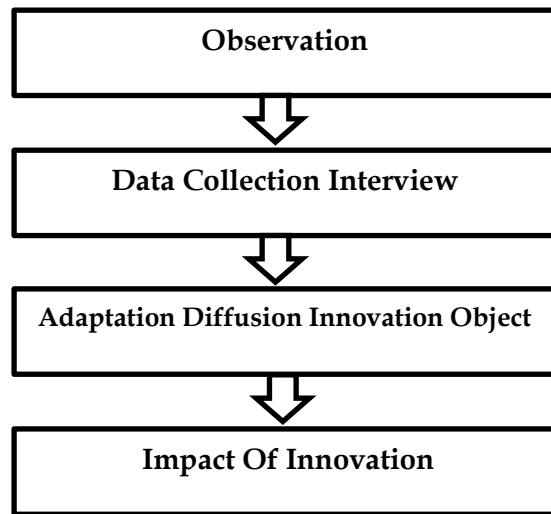


Figure 1. Conceptual Framework

From the results of the interview, it can be known what innovation adaptations have been given from each activity program that has been carried out so that the impact given to the community can be seen and felt and become an important thing for researchers.

METHODOLOGY

Type of Research

This type of research is qualitative research, using descriptive methods. According to qualitative research is an approach to exploring and understanding human behavior, experiences, or social phenomena in a deep and holistic way. This research aims to explore the meanings captured by individuals in their social contexts. In contrast to quantitative research that prioritizes measurement and statistics, qualitative research focuses on the exploration and interpretation of the phenomenon being studied, by collecting descriptive data such as in-depth interviews, observations, and document analysis. Afriansyah, Aldila (2016:56)

In this study, researchers seek to uncover the meanings contained in human experiences, social behaviors, or interactions that occur in a particular context, making them ideal for exploring complex issues that cannot be directly explained by numbers or numerical data.

According to Ardial (2014:262), the descriptive method is intended to explore and clarify a phenomenon or social reality, by describing a number of variables related to the problem and unit being studied. Azizah, (2013:33)

Research Focus

The focus of the analysis research in this study is the analysis of innovation diffusion in the implementation of the Bangkalan initiative cleanliness program.

Research Location

The location of this research is located at Jl. Kartini No.10, Rw.03, Keraton, Bangkalan District, Bangkalan Regency, East Java 69119. The location of this research is in collaboration with Cafe Kedai Pustaka.

Types and Data Sources

1. Primary data is data obtained from the first data source or field hands. The source of this data can be respondents or research subjects (Kriyantono, 2014: 41) in this primary data we obtained from the results of an interview with one of the Bangkalan initiative community administrators. Azizah, 2018:33.)
2. In this study, the researcher used secondary data sources. Secondary data is additional data that supports the research problem, which will be taken from documents and others (Moleong, 2009:152) in . We obtained this secondary data based on observations from podcasts and documentation on social media of Bangkalan initiatives such as: You Tobe, Instagram, and Tik Tok. Edrisy, Ibrahim Fikma; Rozi, Fahrul (2021: 102)

Data Collection Techniques

In this study, the researcher used several ways to collect the necessary data. Therefore, the researcher uses data collection techniques that are in accordance with this study, namely:

1. Interview

Interview is a data collection technique through conversations that are conducted with a specific intention, from two or more parties,). The researcher in this case is positioned as an interviewer, asking questions, assessing answers, asking for explanations, taking notes and digging deeper questions. On the other hand, the informant answered questions and gave explanations. In this interview, the researcher used structured interviews. In conducting structured interviews, researchers have prepared research instruments in the form of written questions that have been planned and prepared in advance according to (Research methodology e-book (Sugiyono (2016) in Farida Nugrahani (2014:24)

2. Documentation

According to Sugiyono (2018:240) documentation is a way used to obtain data and information in the form of books, archives, documents, writing numbers and drawings in the form of reports and information that can support research. This documentation records all the results of interviews and statements provided by the informant. Lase, Yusnidar, Ndraha, Ayler Beniah. (2023:1808)

Data Analysis Techniques

Data Reduction

In this data reduction, the researcher collects all the data that has been obtained. Then all the data that has been collected are selected and grouped according to the focus of the research. The data that has been separated is then selected which is relevant and which is irrelevant. Relevant data is analyzed and irrelevant data is discarded. According to Sugiyono (2018; 60) In reducing data, it is summarizing, choosing the main things, focusing on the important things and looking for themes and patterns. The stages of data reduction in this study are: Yusriyah & Achdisty Noordyana, (2021:49)

- a) Collecting, summarizing, correcting, and grouping data on mathematical representation skills from the results of tests conducted by students, documentation, and conducting interviews.
- b) The results of students' work in the form of raw data are transformed into notes as material for interviews.
- c) The results of the interviews with students are simplified into a good language arrangement and then transformed into notes.

Data Display

Once the data is reduced, the next step is to present the data. After the data is reduced, the next step of analysis is the presentation (*display*) of the data. The presentation of data is directed so that the data from the reduction is organized, arranged in a relationship pattern, so that it is easier to understand. Data presentation can be done in the form of narrative descriptions, charts, relationships between categories, flow charts, and the like. Presenting data in these forms will make it easier for researchers to understand what is happening and plan their next research work. In this step, the researcher compiles relevant data so that it becomes information that can be concluded and has a certain meaning. The process can be done by displaying and making relationships between phenomena to interpret what actually happened and what needs to be followed up to achieve the research objectives. A good appearance or display of data and a clear line of thought is something that every researcher is very hopeful. Good data display is an important step towards achieving valid and reliable qualitative analysis, (Noor, Muhammad Afifuddin, Made Saihu 2024:167)

The result of the process of transforming data into valuable information. The third step is drawing conclusions and verification. The initial conclusions presented are still provisional, and will change if strong supporting evidence is not found at the next stage of data collection.

RESULTS

Purpose

The Bangkalan initiative was formed with the goal of *iniziare* (starting to do something) for the people of Bangkalan is to care about the condition of the environment in Bangkalan and care about the condition of illegal waste in Bangkalan Regency.

1. The process of diffusion of environmental hygiene innovation by the Bangkalan initiative community took place among the community.

Innovation in environmental cleanliness is very important in the midst of the sustainability of waste management and environmental sustainability that is increasingly complex. Bangkalan, as one of the regions that has successfully implemented various hygiene programs, shows that the process of diffusion of innovation not only involves the government, but also the active participation of the community.

According to Nadia, *"the initiative program has been running for 1 year. For the dissemination of the program, it is still in a specific random way only in the Bangkalan area of the city because the goal is to solve problems in Bangkalan and several times have also collaborated with the environment in Surabaya, for example, the Airlangga University campus. Why is that, because the initiative only collaborates with the campus that proposes or invites collaboration first. Meanwhile, there are several campuses in Bangkalan that have not invited to collaborate with the Bangkalan initiative community. However, there are also campuses in Bangkalan that have collaborated, namely the Trunojoyo Madura University campus."*

The process of diffusion of environmental cleanliness initiative innovations in Bangkalan is quite dynamic among the community. On the one hand, the community is beginning to realize the importance of maintaining environmental cleanliness, especially after intensive socialization carried out by local governments and various communities that care about the environment. Factors such as concern for health and comfort of life have made many residents start to support this program.

2. Factors that affect the speed or slowness of the implementation of diffusion of environmental hygiene innovations in Bangkalan:

In the era of globalization and increasing awareness of the importance of environmental cleanliness, the application of innovation is very crucial. However, the process of diffusion of innovation does not always run smoothly. Various factors such as government policy support, community participation, and the availability of resources are the main determinants in the success of innovation implementation.

According to Nadia, *"The slow factor of the program is the lack of donations (funds) and insufficient human resources. Meanwhile, the fast factor of the program is support from the government, support from DLH (Environmental Service) and support from the community where volunteers act"*.

People who have a good understanding will be more receptive to hygiene innovations, while people who are not aware of the bad effects of a dirty environment tend to be slow to participate.

3. The role of the government and local organizations in disseminating innovations related to the environmental cleanliness program in Bangkalan as well as collaboration between the government, communities, and the private sector in supporting the diffusion of environmental cleanliness innovations in Bangkalan:

Collaboration between the government, communities, and the private sector is key to success in expanding the reach and sustainability of environmental hygiene programs. This close partnership between various parties allows for a more equitable distribution of responsibilities,

so that hygiene innovations can be more quickly accepted and adopted by the wider community.

According to Nadia, *"The portion that plays the most role in overcoming environmental problems is the government that has the power, policies, and funds. The community only has the responsibility to have awareness and solve environmental problems from home to the hands of the government. Example: people have garbage at home, their task is to solve the garbage to the hands of the government or TPS (Waste Disposal Site). And the government provides facilities, policies, and awakens public awareness because it has a very big role. However, unfortunately, the government for the implementation of this is still lacking. It is hoped that the community will take part in voicing concerns related to very large government policies. Only the DLH government supports the sustainability of the Bangkalan initiative program. However, for the community and the private sector, the company has not supported the process of spreading this environmental hygiene diffusion. Example: Diaper producing companies that should have space for the waste disposal itself so that it does not burden the government's workload to sort the waste"*.

Collaboration between the government, communities, and the private sector further strengthens the diffusion of these innovations. The government provides support in the form of regulations and budgets, while local communities act as the main implementers on the ground. The community actively participates in inviting residents to participate, so that the process of spreading hygiene innovations becomes more effective and equitable.

4. Obstacles in the process of diffusion of environmental hygiene innovation in Bangkalan and how to overcome them as well as strategies used to encourage community participation in adopting environmental hygiene programs in Bangkalan:

The process of diffusion of environmental cleanliness innovation in Bangkalan faces various obstacles that affect its effectiveness and reach in the community. Some of the challenges that often arise include low public awareness, limited infrastructure, and cultural differences and habits in waste management. To overcome these obstacles, local governments and local organizations have implemented various strategies, such as continuing education, the provision of hygiene facilities, and increased participation through campaigns and gotong royong programs.

In encouraging community participation, special strategies are also implemented to make it easier for residents to adopt environmental hygiene programs. These measures include providing incentives, interactive socialization, and collaboration with community leaders to increase citizens' understanding and commitment. Thus, it is hoped that the people of Bangkalan can be more actively involved in maintaining environmental cleanliness and supporting this termination program.

According to Nadia, *"The obstacles faced by the Bangkalan initiative community in the process of diffusion of environmental cleanliness innovations are that Human Resources from the initiative team are very limited and not all communities are open during the implementation of education. The way to overcome this is the hope of the moving education world (schools) to provide the same education related to the vision and mission that the initiative team has related to the cleanliness program. The method used by the initiative team is by conducting education. Because the community is still not aware of sorting waste to ease the government's workload"*.

The obstacles in the diffusion process of environmental cleanliness innovation in Bangkalan are quite complex and diverse challenges. One of the main obstacles is the low level of public awareness and understanding of the importance of environmental cleanliness. Many residents still consider environmental cleanliness as the responsibility of the government, so community participation tends to be low. In addition, the limitations of facilities such as public garbage cans, waste processing, and waste transportation systems in several areas are also obstacles in the implementation of this cleanliness program.

5. Environmental hygiene innovations that have been successfully adopted by the Bangkalan community:

In this increasingly advanced era, environmental cleanliness is one of the important factors in creating a good quality of life. In the statement of the results of the interview that has been conducted.

According to Nadia *"The target of the initiative team is to change the behavior of the community, and to measure such a thing is not easy if there is no awareness from the Bangkalan community itself. The success that the initiative team feels successful is that they are enough to provide understanding to the community. Regarding whether the community wants to implement it or not is part of the responsibility of the community itself. If it is percentaged, 50% of them know and 50% they do not want to act"*.

The environmental cleanliness innovation that has been successfully adopted by the Bangkalan community is a clear example of collective commitment and awareness in preserving the environment. We consider that the efforts made by the Bangkalan initiative team are not only the application of hygiene methods, but also create a deeper culture of environmental awareness among residents.

6. Scale of the effectiveness of the Environmental Hygiene Innovation Diffusion Program in increasing awareness and participation of the Bangkalan community:

The importance of environmental cleanliness as part of sustainable development efforts makes the environmental cleanliness innovation

diffusion program one of the keys to strategies in improving the quality of life of the community. In Bangkalan Regency, this program is expected to stimulate collective awareness and mobilize active participation from various levels of society, both individuals and groups, in maintaining the cleanliness and sustainability of the surrounding environment.

According to Nadia, *"The scale of the Bangkalan community cannot be said to be effective. But the effectiveness only exists in people who have been educated. For example, currently Bangkalan already has a TPST (Integrated Waste Disposal Site) which has just been built since September 20, 2024, which is located in Bangkalan Plaza"*.

In my opinion, the scale of effectiveness of the environmental hygiene innovation diffusion program in Bangkalan Regency is very important to measure and evaluate, considering the environmental conditions that are often influenced by low public awareness about the importance of cleanliness. A well-designed innovation diffusion program has the potential to significantly change people's behavior, especially if followed by the right approach to counseling and education

In the context of Bangkalan, the success of this program will largely depend on how effectively information and hygiene practices can be accepted and implemented by the community. The community needs to be involved in every stage of the process, from planning to implementation, so that they feel responsible and there is no impact on the cleanliness of their environment.

7. Collaboration between the Government, Community, and Private Sector in Supporting the Diffusion of Environmental Hygiene Innovation in Bangkalan

Collaboration between governments, communities, and the private sector plays an important role in advancing the diffusion of innovation, especially when it comes to environmental cleanliness. In Bangkalan, the synergy between these various parties is expected to be able to create a more holistic and sustainable approach in overcoming hygiene challenges, resulting in a positive impact on public health and environmental quality.

According to Nadia, *"only the DLH government supports the sustainability of the Bangkalan initiative program. However, for the community and the private sector, the company has not supported the process of spreading this environmental hygiene diffusion. Example: Diaper producing companies that should have space for the waste disposal itself so that it does not burden the government's workload to sort the waste"*.

Collaboration between the government, communities, and the private sector in supporting the diffusion of environmental hygiene innovations in Bangkalan is a strategic step to overcome various complex environmental challenges. The government plays a role as a policymaker

and provides regulatory support, while the community has an important role in implementation and supervision in the field. On the other hand, the private sector can contribute through innovative technology, funding, and resources. These elements, if well connected in the third synergy, can accelerate the implementation of innovation, hygiene and ensure the sustainability of the program. However, the success of this collaboration requires effective communication, trust between parties, and commitment

8. The next step is to ensure that the innovation of this hygiene program continues to develop and is widely accepted in Bangkalan

To ensure that the innovation of this environmental cleanliness program continues to develop and is widely accepted in Bangkalan is to strengthen the involvement of all parties, both the government, the community, and the private sector, in supporting the program's wishes. This requires effective communication strategies, ongoing training, and increased accessibility of information on the importance of hygiene for health and quality of life. Additionally, it is important to involve the community in every stage of planning and evaluation, so that they feel owned and responsible for the success of the program. With a holistic and inclusive approach, it is hoped that this innovation can develop rapidly and have a wide positive impact in maintaining environmental cleanliness throughout the Bangkalan area.

According to Nadia, the next step of the initiative team is how to change the paradigm (view) of the community that actually when we protect the environment, the value of the money we get is also greater, for example: rice farmers who fail to harvest the main factor is a dirty environment. When we keep the surrounding environment clean, it also affects good crop yields. Not only that,

According to Nadia, "Educators are the main factor to encourage the implementation of the diffusion program of environmental hygiene innovation, and Nadia also said that what needs to be educated are educators, parents, the government, and the private sector".

The next steps are education of educators and the community (Raising awareness through educational campaigns about the importance of waste management and the benefits of recycling programs), Collaboration with universities (Strengthening cooperation with educational institutions for the development of more effective waste management technology. Community Participation (Involve the community in clean-up and waste management activities, such as the "Bangkalan Bersih" program). Sustainable Innovation (Developing new products from waste, such as briquettes, food to increase economic value and attract public interest), Monitoring and Evaluation (Conducting periodic evaluations of programs to assess their impact and effectiveness in reducing waste.

9. Community and Government Response to Environmental Hygiene Innovation Started in Bangkalan

The environmental cleanliness innovation that started in Bangkalan received mixed responses from the community and the local government. This initiative aims to overcome increasingly complex environmental problems and improve the quality of life of residents. On the one hand, the community is showing enthusiasm to support this program, especially as awareness of the importance of a clean environment is increasing. On the other hand, the government plays an active role in facilitating and supervising the program, by providing supporting facilities and conducting socialization so that this environmental cleanliness innovation can be applied sustainably in various regions.

According to Nadia, "*The community's response to the Bangkalan initiative is various, there are those who help, blaspheme, anger at their actions because of licensing, some respond well and even support so that from the community side there are always positive and negative comments. Then, the government's response related to this initiative program is very good. However, this environmental focus has not become the main focus in the hands of the current government. The main focus in the hands of the government is the economy*".

In our opinion, the response of the community and the government to the environmental cleanliness innovation that started in Bangkalan is quite positive and shows the potential for desire. At the community level, more and more residents are becoming aware of the importance of maintaining environmental cleanliness. This can be seen from the increasing participation in mutual cooperation activities, waste banks, and recycling programs initiated in several villages. The enthusiasm of the community is also driven by awareness of the positive impact of environmental cleanliness on health and quality of life.

On the other hand, the Bangkalan Government responded to this innovation with concrete steps, such as providing hygiene facilities, supporting the procurement of integrated waste disposal sites, and conducting continuous socialization. The government also facilitates educational programs involving various elements of society, ranging from schools, local communities, to the private sector. This government support is a strong driver that helps environmental hygiene innovations be accepted and accepted by the community.

However, despite the positive response, we see that challenges such as the consistency of community participation and facility restrictions in some areas need to be addressed. With the synergy between the government and the community getting stronger, we are optimistic that environmental hygiene innovations in Bangkalan will continue to develop and be sustainable, creating a long-term impact that benefits all residents.

DISCUSSION

Data Reduction

1. The process of diffusion of environmental hygiene innovation by the Bangkalan Initiative community took place among the community.

Hygiene innovation is important to overcome the increasingly complex problems of waste management and environmental sustainability. Bangkalan has successfully implemented various cleanliness programs with the active participation of the community and the government. The cleanliness program has been running for 1 year and is still limited to the Bangkalan area of the city. Collaboration with Surabaya, such as with Airlangga University, occurred because of the initiative of the campus that proposed collaboration. Campuses in Bangkalan, such as Trunojoyo Madura University, have also collaborated, although not all campuses are involved. Socialization by the government and communities that care about the environment increases public awareness of the importance of environmental cleanliness. Health and comfort factors encourage public support for hygiene programs.



Figure 1. the process of diffusion of innovation that takes place among the community

Analysis:

Based on the documentation of the successful diffusion of environmental hygiene innovations among the community, there are several main factors that support the successful adoption of this innovation. These factors include effective communication and counseling, the role of social mobilizers and community leaders, ease of access to adequate infrastructure, government policy support, and the relevance of innovation to local conditions. All of these factors work together to create conditions that favor the diffusion of wider hygiene innovations among the community, thereby creating a positive change in better environmental hygiene behavior.

2. Obstacles in the process of diffusion of environmental hygiene innovation in Bangkalan and how to overcome them as well as strategies used to encourage community participation in adopting environmental hygiene programs in Bangkalan.

The diffusion of environmental hygiene innovations in Bangkalan faces various obstacles that affect the effectiveness and reach of the program. The main challenges include low public awareness, limited facilities and infrastructure, as well as cultural differences and habits in waste management. Another major obstacle is the limited Human Resources (HR) in the initiative team and the lack of openness of some people to education.

Local governments and local organizations are trying to overcome this obstacle by implementing various strategies, including continuing education, the provision of hygiene facilities, and increasing community participation through mutual cooperation campaigns and programs. To encourage participation, the strategy in particular involves providing incentives, interactive socialization, and collaboration with community leaders. The goal is to increase residents' understanding and commitment to environmental cleanliness.

The main challenge in the diffusion of this innovation is the low public awareness of the importance of cleanliness, where many still consider that cleanliness is the responsibility of the government alone. This causes community participation in hygiene programs to tend to be low. In addition, the limitations of hygiene facilities such as public garbage cans, waste treatment systems, and waste transportation in some areas are also obstacles.

Active community participation can also be increased by creating more attractive and relevant incentives, such as programs provided for clean-up areas or providing additional facilities for communities that demonstrate a high commitment to cleanliness. In addition, technology can also be used to make waste management easier, such as complaint applications and cleanliness reporting that are integrated with local government systems. Overall, the process of diffusion of hygiene innovation in Bangkalan requires a more holistic approach, involving cooperation between the government, the community, and the private sector. By combining education, provision of facilities, incentives, and the use of technology, it is hoped that public awareness and participation can increase, so that environmental cleanliness in Bangkalan can be maintained properly and sustainably.



Figure 2. Waste generated from the innovation diffusion program by the Bangkalan initiative.

Analysis:

Based on the documentation above, it is a grouping of waste that has been found by the Bangkalan initiative community in the implementation of the innovation diffusion program in the field of cleanliness. The grouping of waste is selected according to the age of the waste. The recycling applied can adapt to local needs and have a long-term impact on good waste management in Bangkalan district.

This shows that the implementation of the right environmentally friendly hygiene program can increase efficiency in waste management, as well as support environmental destruction. In addition, with an approach that is in accordance with the conditions and characteristics of the region, the surrounding community can also be more easily involved in the recycling process, thereby creating more effective and sustainable waste management solutions.

3. Scale of the effectiveness of the Environmental Cleanliness Innovation Diffusion Program in increasing awareness and participation of the Bangkalan community.

The scale of effectiveness of hygiene innovation diffusion programs needs to be carefully evaluated. Environmental conditions in Bangkalan are often influenced by the low awareness of the importance of cleanliness. Therefore, well-designed programs, including targeted education, have great potential to change people's behavior, especially in terms of waste management and hygiene.

The success of this program will largely depend on the extent to which the community receives and applies information and practices hygiene. Therefore, it is important to involve the community in every stage, from planning to implementation, so that they feel responsible and do not negatively impact the cleanliness of their surrounding environment.

To ensure the achievement of the hygiene innovation diffusion program in Bangkalan, a more participatory and sustainable approach is needed. One of the steps that can be taken is to strengthen counseling and hygiene education at various levels of society, ranging from schools, communities, to community organizations. Educational programs that are interactive and based on real experiences can help increase citizens' understanding and awareness of the importance of maintaining a clean environment.

Regular evaluation of this program is also very important to find out whether the strategies implemented are effective or still need improvement. Clear measurements of community awareness, participation, and waste management can provide an idea of whether this hygiene program is running as expected. Therefore, to achieve maximum success in the diffusion program of environmental hygiene innovation in

Bangkalan, synergy is needed between government policies, sustainable education, the active role of the community, and adequate supporting assistance. These measures are expected to bring sustainable positive changes to the cleanliness and health of the environment in Bangkalan.

Data Display

In a qualitative research entitled "Innovative diffusion analysis in the implementation of hygiene programs: A Case Study of the Bangkalan Initiative" using a data display using the Thrustone scale method. The Thrustone scale asks respondents to choose a question that they agree with from several questions that present different views. In general, each item has a value association between 1 and 10, but the values are unknown to the respondents, (. Sudaryono, 2017: 197)

Based on the statement of the item above, it can be analyzed in the following way:

(1). The researcher provides an accurate answer key and assessment.

Item No. Statement	1	2	3	4	5	6	7	8	9
Value	9	4	5	7	6	8	3	2	1
Highest Score: $5+6+7+8+9 = 35$ ($35:5 = 7$)									
Lowest Score: $1+2+3+4 = 10$ ($10:4 = 2.5$)									

(2). Providing scores according to the respondents' answers and calculating the results of the respondents' data recapitulation.

Nadia Hawarul Aini

Item No. Statement	1	2	3	4	5	6	7	8	9
Respondent's answer	1	2	3	4	5	6	7	8	9
Value	9	4	5	7	6	8	3	2	1
Calculation = $1+2+3+4+5+6+7+8+9 = 45$ Value: $45:9 = 5$									
Conclusion: The 5th score of Nadia Hawarul Aini is that it has a sufficient response to achieve the environmental cleanliness innovation diffusion program in Bangkalan.									

Verification

This program aims to encourage regional development through community empowerment, improving the local economy, and preserving culture and the environment. The initiative involves a wide range of stakeholders, including governments, local organizations, and the general public, to jointly identify challenges and design innovative solutions. The main focus of this program is to improve the quality of life of the people of Bangkalan by providing better access to education, health, and economic opportunities, as well as strengthening the spirit of collaboration between residents. This initiative also seeks to preserve the uniqueness and cultural heritage of Bangkalan while supporting sustainable economic growth in the region.

Judging from the resource person's understanding of the field that is currently being worked on, namely about the environmental cleanliness program. However, the resource persons still do not have a broader understanding of innovation diffusion itself as seen from the innovation diffusion criteria. The criteria for innovation diffusion are:

- Relative Advantages
- Conformity
- Kesullitan

CONCLUSION

The programs that have been carried out by the Bangkalan Initiative Team related to the diffusion of innovations in the field of cleanliness aim to encourage public awareness about the impact of illegal waste. Of the ten hygiene innovation diffusion programs that have been implemented by the Bangkalan initiative team, not 100% have been successfully implemented by the Bangkalan community, although they have educated the community, only about 50% have acted in real action. This program involves collaboration, such as with Airlangga University, and requires support from the government and the private sector, which is currently limited. The main challenges are the lack of human resources and people's rejection of education. Although the government is supportive, their main focus is still on economic issues. The sustainability of this program is pursued by instilling economic value from a clean environment. In conclusion, the Bangkalan initiative program has a great impact in the field of cleanliness, especially the Bangkalan community. The first step in the process of diffusion of cleanliness innovation of the Bangkalan initiative is the role of education, especially educators, which is the main factor.

RECOMMENDATIONS

Some implementations that can be given from the results of this study are Strengthening Communication and Socialization, Supporting Infrastructure, Multi-Party Collaboration, and Adaptation of Environmentally Friendly Technology. With the implementation of this strategy, it is hoped that cleanliness innovations can be distributed well and provide sustainable positive impacts.

FURTHER STUDY

The limitations of this study focus more on the social aspects of innovation diffusion, while technical, economic, and environmental factors that can affect the success of implementing a cleanliness program have not been discussed in depth. As well as the data collection process carried out over a certain period of time that may not reflect dynamic changes related to the acceptance and implementation of cleanliness innovations in the community.

Suggestions for further research are expected to further explore how government policies, such as regulations, incentives, and budget support, affect the success of innovation diffusion in cleanliness programs.

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