

Participatory Leadership for Smart Village Development

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Abstract: This study aims to analyze the role of participatory leadership in supporting Smart Village development in Bulu Village, Sidenreng Rappang Regency. Using a descriptive quantitative approach, this study describes the relationship between indicators of communication, cooperation, subordinate involvement, and decision-making and the success of Smart Village development. Data were collected through observation, in-depth interviews, and questionnaires given to 100 respondents, then analyzed using the SPSS 26 application for Windows. The results showed that respondents rated participatory leadership in Bulu Village very well, with an average percentage of 86 percent on all four indicators studied. These findings suggest that the inclusive and participatory leadership approach has created an enabling environment for active community participation, an important foundation for implementing the Smart Village concept. However, challenges remain, particularly in decision-making and subordinate involvement, that require further improvement. The implications of this study emphasize the importance of effective communication, cooperation, and subordinate involvement in participatory leadership models, particularly in the context of technology-based development such as Desa Cerdas. From a practical perspective, this research offers concrete recommendations for village governments and local leaders to develop and implement the Desa Cerdas concept more effectively. The limitations of this study include the limited scope of one village and a quantitative approach that lacks depth in uncovering social and cultural dynamics. Further research using qualitative approaches or case studies in various villages is needed to gain more comprehensive insights.

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INTRODUCTION

In the current era of globalization, the development of information and communication technology has brought significant changes in various aspects of life (Mutiarin & Lawelai, 2023), including in village development (Furqan et al., 2023). The Smart Village concept emerged as an answer to development challenges in rural areas (Nieto & Brosei, 2019). Smart Village is a development model that integrates technology with local potential to improve the welfare of village communities (Kim & Go, 2021). However, the implementation of smart villages does not only depend on technological aspects, but also requires adaptive and participatory leadership that is able to encourage active participation from all elements of village society (Ar et al., 2021).

Participatory leadership is one of the important approaches in the context of Smart Village development (Damayanti & Syarifuddin, 2020). This type of leadership prioritizes community participation in the decision-making process, so that every decision taken reflects the real aspirations and needs of the village community (Zanudin et al., 2019). By

actively involving the community, village development can run more effectively and sustainably (Mustanir et al., 2022), because every program or policy implemented is supported by awareness and contributions from all elements of society (Damayanti & Syarifuddin, 2020).

However, the implementation of participatory leadership in the development of Smart Villages still faces various challenges (Zavratnik et al., 2018). One of the main challenges is the low understanding and participatory leadership skills among village officials (Beer, 2014). In addition, there are also obstacles related to the paternalistic culture that is still strong in some areas, where people tend to be passive and wait for directions from village leaders without daring to express their opinions or ideas. This can hinder the process of community participation which should be the foundation in the development of smart villages (Zhang & Zhang, 2020).

Bulo Village, located in Sidenreng Rappang Regency, has shown a strong commitment in realizing the vision of becoming a Smart Village. One of the important steps taken by the village government is the preparation of a participatory vision and mission, involving various levels of society. The active participation of village heads, village staff, and the public in village deliberations shows the seriousness of the village government in responding to local needs and potential. The vision of Bulo village, which includes the concept of a smart village and an emphasis on the agriculture, plantation, and livestock sectors based on “*Mabbulo Sipepa*” local values, reflects efforts to integrate tradition and technology in village development.



Figure 1. Front Page View of the Bulo Village Official Website

This figure shows the front page of the official website of Bulo Village, Panca Rijang Sub-district, Sidenreng Rappang District, South Sulawesi Province. At the top, there is village contact information, including the village address, phone number, and official email. In addition, there are direct links to WhatsApp and Facebook applications to facilitate communication with the village government. The main figure features the slogan “*Bumi Mabbulo Sipeppa*” and a welcome to Bulo Village, accompanied by photos of local village officials. This website demonstrates the Bulo village government's commitment to providing transparent and easily accessible information to the community, as part of the effort to realize the vision of a smart village.

However, to realize this vision, there are several challenges faced by Bulo Village, especially in the aspect of digital infrastructure. Although the village vision has led to the application of technology in development, access to an adequate internet network is still

an obstacle. This condition can hinder community participation in various technology-based development programs. In fact, good internet access is the key to strengthening communication, information, and citizen participation in village programs launched by the government.

The lack of access to the internet in Bulo Village also creates an information gap among the community. Most villagers still rely on traditional communication methods to obtain information related to village development programs. This leads to uneven and often late dissemination of information, which can ultimately affect citizens' participation in the decision-making process. Without adequate access, it will be difficult for village communities to be actively involved in the smart village program expected by the village government.

In addition, the limited budget allocated for the development of digital infrastructure in Bulo Village is one of the factors that needs attention. The village government needs to consider increasing the budget allocation to improve the internet network, so that the community can easily access information related to village development. With an adequate internet network, the people of Bulo village will not only get information quickly and accurately, but also be able to participate in online village discussions and deliberations, which will ultimately strengthen the implementation of the smart village concept in the village.

The concept of Smart Village has become an increasingly interesting topic of study in rural development literature. Several studies have shown that the implementation of digital technology in rural areas can improve the efficiency of public services, encourage local economic growth, and strengthen community involvement in the decision-making process (Salemink et al., 2017). Smart Villages are also considered as innovative solutions to overcome the gap between urban and rural areas in terms of access to information and technology. In this context, the literature emphasizes the importance of digital infrastructure, such as a reliable internet network, as a foundation to support the achievement of the Smart Village goals (Malik et al., 2022).

In addition to infrastructure, the literature also highlights the importance of community participation in the successful implementation of the Smart Village concept. Community participation not only increases the accountability and transparency of village government, but also ensures that local needs and aspirations are accommodated in every policy taken (Uddin, 2019). A study conducted that villages that successfully implement the smart village concept generally have a high level of community participation, where residents are actively involved in the planning, implementation, and evaluation of village programs (Renukappa et al., 2022). This is in line with the participatory leadership approach applied in Bulo Village, where village deliberation is an important means of setting a shared vision and mission.

Furthermore, the literature also identifies several challenges that are often faced in the development of smart villages, including limited resources, both in terms of budget and technical capacity (Ella & Andari, 2018). Studies show that without adequate support from the central and local governments, as well as in the absence of training to improve people's digital skills, the implementation of Smart Villages can be hampered (Fennell et

al., 2018). Therefore, it is important for village governments to not only focus on infrastructure development, but also on building community capacity in utilizing digital technology to support inclusive and sustainable village development (Castro-Arce & Vanclay, 2020).

The urgency of this research lies in the urgent need to understand how participatory leadership can support the development of Smart Villages in rural areas such as Bulu Village. Participatory leadership, which involves important elements such as effective communication, cooperation, subordinate involvement, and collective decision-making, is key in facing the complexities and challenges that arise in the implementation of the smart village concept (Sumiyana et al., 2022). With the active participation of the community and various stakeholders, this technology-based development can be more responsive to local needs and be able to make optimal use of the potential in the village. Therefore, this study aims to delve deeper into the role of participatory leadership in the context of sustainable and technology-based village development.

In participatory leadership, effective communication is the main foundation. Through open and transparent communication, village leaders can establish strong relationships with the community, as well as ensure that every program and policy implemented truly reflects the aspirations and needs of the residents. In addition, cooperation between leaders and the community is an important factor that can encourage synergy in the implementation of various Smart Village initiatives. The involvement of subordinates or the community in the decision-making process also ensures that every development step is supported by a sense of belonging and commitment from all elements of the village, which in turn will increase the success of the implementation of village programs.

The development of Smart Villages not only aims to improve the quality of life of people, but also covers various important aspects known as the six dimensions of Smart Villages: smart society, smart governance, smart economy, smart environment, smart life, and smart mobility. Smart society focuses on community empowerment through education and access to information, while smart governance emphasizes transparency, accountability, and participation in village governance. The smart economy involves the development of a local economy based on innovation and technology, while the smart environment seeks to preserve the environment through sustainable practices. Smart living is linked to improving the quality of life through better public services, and smart mobility aims to improve accessibility and connectivity within villages.

The purpose of this study is to analyze how participatory leadership can support the development of Smart Villages that cover all six dimensions in Bulu Village. This research will explore how effective communication, cooperation, community involvement in decision-making, and the application of technology, can strengthen the implementation of various Smart Village initiatives. By understanding the factors that support and hinder the implementation of participatory leadership in village development, it is hoped that this study can provide relevant recommendations for

village governments and other stakeholders to create a more advanced, inclusive, and sustainable Bulo Village.

RESEARCH METHOD

This research was conducted in Bulo Village, Sidenreng Rappang Regency, using a quantitative approach with a descriptive method (Stockemer, 2019). This study is designed to objectively describe the relationship between the participatory leadership of the village head and the development of a smart village in Bulo Village. The research stage began with the determination of the research location using purposive sampling, namely choosing Bulo Village as the location because of its relevance to the research topic and the existence of two main hamlets, namely Bulo Hamlet and Kampung Baru Hamlet. This location was chosen because of the potential and need for the implementation of Smart Villages that require a more in-depth study related to the participation of village heads.

Data collection is carried out through several techniques, namely direct observation, in-depth interviews, questionnaires, literature studies, and documentation (Khoa et al., 2023). Direct observation is carried out to objectively understand the situation and conditions in the field (Gold, 2017). In-depth and structured interviews with key informants, such as village officials and community leaders, were used to dig deeper into information related to the role of participatory leadership in village development. A questionnaire using the Likert Scale (Batterton & Hale, 2017), was given to 100 respondents who were selected based on the sampling probability method with the application of the Slovin formula, to obtain numerical data that would be analyzed statistically.

The next stage is the processing of data obtained through questionnaires and interviews using the SPSS 26 application for Windows (Pallant, 2013). The analysis was carried out in several stages, starting from descriptive statistics to describe basic data, data quality tests to ensure the validity and reliability of the collected data, and simple regression analysis to test the relationship between participatory leadership variables and smart village development variables (Inglis et al., 2022). Hypothesis testing was carried out to find out whether there was a significant influence between the participatory leadership of the village head and the success of the development of the Smart Village in Bulo Village.

RESULTS AND DISCUSSION

The results of this study present key findings related to the relationship between the participatory leadership of village heads and the development of Smart Villages in Bulo Village. The data analysis conducted showed that there was a significant correlation between the level of participation initiated by village leadership and the successful implementation of Smart Village programs. Quantitative data processed through a simple regression method provides an idea that participatory leadership plays a role as a catalyst in encouraging community participation, which in turn strengthens the effectiveness of technology-based development in rural areas.

Participatory Leadership

Participatory leadership in Bulu Village, Sidenreng Rappang Regency, plays an important role in encouraging the involvement of the community and village staff in every aspect of village development. As a leadership model that prioritizes the active participation of all team members, participatory leadership in Bulu Village strives to create an inclusive environment, where everyone can express their ideas and opinions. With this approach, the village head not only acts as the main decision-maker, but also as a facilitator who encourages community participation in the decision-making process. This is in line with the concept participatory leadership provides opportunities for team members to actively contribute to improving the progress of the organization (Doloi et al., 2018), in this case the progress of Bulu Village towards the vision of Smart Village.

Good and directed communication is the first indicator applied in participatory leadership in Bulu Village. The village head strives to maintain transparent communication with the community and village staff, ensuring that information related to village programs and policies is conveyed clearly and can be understood by all parties. This effective communication allows for a two-way dialogue between leaders and the community, so that any input and feedback from citizens can be accepted and considered in the decision-making process. Through this open communication, the village head can build trust and create a sense of belonging among the community, which is an important foundation for the successful implementation of the Smart Village program.

In addition to communication, cooperation is also a crucial aspect in participatory leadership in Bulu Village. Village heads encourage collaboration between various parties, both inside and outside the village government, to achieve common goals. By involving the community in various village projects and initiatives, the village head creates a sense of collective responsibility among the residents, where everyone feels they have an important role in the success of village development. This collaboration also strengthens social cohesion in Bulu Village, because each individual feels appreciated and recognized for their contribution to advancing the village. In the context of Smart Village development, cooperation between the village government, the community, and the private sector is the key to optimizing the potential of existing resources.

The involvement of subordinates in the decision-making process is the third indicator applied in participatory leadership in Bulu Village. The village head actively engages village staff and community leaders in village deliberations to discuss various strategic issues, including the planning and implementation of the Smart Village program. By involving various parties in decision-making, the village head ensures that every decision taken reflects the needs and aspirations of the community. This approach not only improves the quality of decisions taken, but also strengthens public support for the policies implemented. This subordinate involvement creates a positive dynamic, where each individual feels involved and has a responsibility to contribute to achieving a common goal.

Appropriate and inclusive decision-making is the last indicator in participatory leadership in Bulu Village. The village head strives to make decisions that are not only in accordance with the needs and goals of the village, but also accept and appreciate the

opinions of his subordinates. In situations where there are different perspectives, the village head acts as a mediator who seeks to reach a consensus by considering various points of view. This decision, taken in an inclusive manner, ensures that every program or policy implemented has strong support from the community, so that its implementation can run smoothly and effectively. With this participatory decision-making approach, Bulo Village can be more responsive to existing challenges, as well as open up opportunities for innovation in the development of Smart Villages.

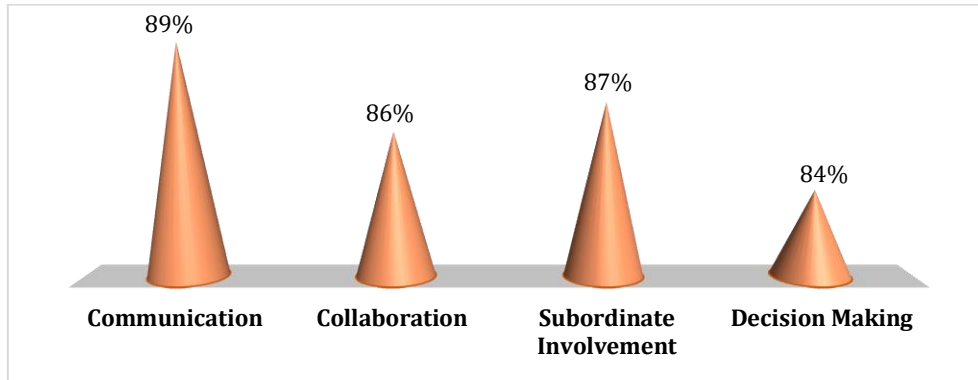


Figure 2. Participative Leadership Indicators

The findings of this study show that participatory leadership in Bulo Village is rated very well by respondents, with an average percentage of 86 percent for indicators of communication, cooperation, subordinate involvement, and decision-making. This high percentage indicates that the village head has succeeded in creating an environment conducive to the active participation of all elements of society, which is an important foundation in the development of Smart Villages. These results are consistent with previous research that emphasized the importance of effective communication and cooperation in participatory leadership to achieve organizational goals (Koohang et al., 2017).

In the context of Smart Village development, this study reinforces the findings of study which identifies communication, cooperation, subordinate involvement, and decision-making as key indicators in participatory leadership (Meyer et al., 2016). The high percentage of communication and cooperation shows that the village head in Bulo Village has succeeded in building an open and collaborative line of communication, allowing for a constructive dialogue between the leadership and the community. This is in line with the literature that states that good communication is the foundation of successful participatory leadership, as it allows for more inclusive and effective decision-making.

While these findings show positive results, there is still room for improvement, especially in decision-making and subordinate engagement where the percentage is slightly lower compared to communication and cooperation. Previous also showed that the success of participatory leadership is greatly influenced by the extent to which leaders can involve their subordinates in the decision-making process (Lammers, 2019). In the case of Bulo Village, although the involvement of subordinates is already considered good, further improvement can be made by ensuring that each decision truly

reflects the needs and aspirations of the community, thus supporting the achievement of the Smart Village goals.

The findings of this study indicate that although participatory leadership in Bulo Village is already at a fairly good level, efforts to improve decision-making and subordinate involvement are still needed to ensure the success of sustainable Smart Village development. This will not only increase the effectiveness of village programs, but also strengthen the community's sense of ownership and responsibility for development in their villages. Thus, this research not only contributes to the existing literature, but also offers practical insights that can be used by other village leaders in implementing participatory leadership more effectively.

Smart Village Development

The development of a Smart Village in Bulo Village, Sidenreng Rappang Regency, is a strategic effort to integrate digital technology into the daily lives of rural communities. Smart Village not only focuses on improving the quality of life of the community using technology, but also strives to create equal access to public services that are equivalent to those available in urban areas. With equitable digitalization, it is hoped that inequality between villages and cities can be minimized, allowing rural communities to get efficient and responsive services to their needs.

Smart Village begins with an analysis of the needs and capabilities of residents in adopting digital technology, where village leaders are expected to optimize existing local resources. This process includes community empowerment through capacity training, which is not only aimed at residents, but also village officials. This training aims to ensure that the community and village government have the necessary skills to utilize digital technology effectively, to create a smart society that is ready to face the challenges of the digital era.

In addition, the development of Smart Villages in Bulo Village also focuses on smart governance by utilizing technology to improve the efficiency and transparency of public services. Communities can now easily access village services online, reducing the need for physical interaction and speeding up administrative processes. In the economic field, the village collaborates with various parties to develop the potential of the local economy, utilize technology to increase productivity and market access, to create a smart and competitive village economy.

On the other hand, attention to environmental aspects is also an important part of the development of Smart Villages. Smart management of waste and waste using technology is a step to preserve the village environment. People's lives are also improved through better health services, including access for groups with disabilities. Strong internet network infrastructure and innovative transportation are the pillars of smart mobility, allowing people to stay connected and support efficient movement within and outside villages. With this holistic approach, Bulo Village is expected to become a sustainable Smart Village model, provide tangible benefits to its residents, and inspire other villages to follow in the same footsteps.

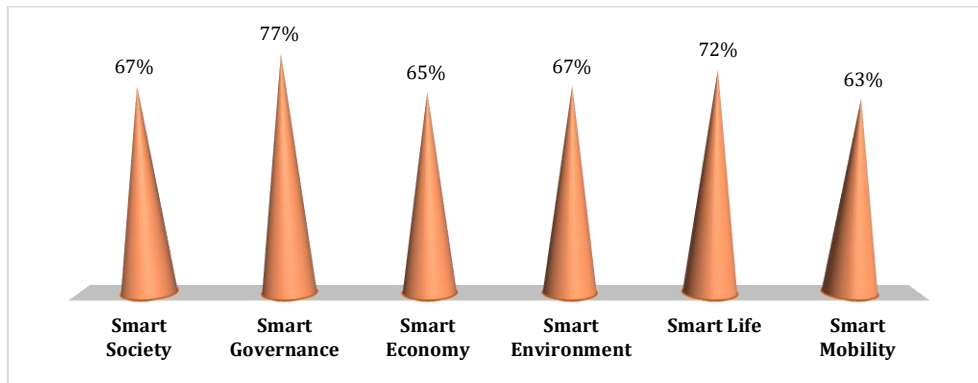


Figure 3. Smart Village Development Indicators

The findings of this study show that the development of smart villages in Bulu Village is in the category of quite good, with an average percentage of 68.50 percent for six main indicators: smart society, smart governance, smart economy, smart environment, smart life, and smart mobility. These results indicate that despite the progress that has been made, there is still room for improvement in some critical respects, especially those related to the Smart Economy and Smart Mobility, which show the lowest percentages of 65 percent and 63 percent respectively. This is in line with the literature that shows that the success of smart village development often depends on the balance between technological innovation and community empowerment (Zavratnik et al., 2020).

In the context of Smart Society and Smart Environment, which each received a percentage of 67 percent, these results show that there is a need to increase public awareness and participation in technology-based initiatives as well as environmental management. Previous studies emphasized that continuous education and training are essential in building a smart society, where people not only become users of technology but also play an active role in creating innovative solutions to local challenges (Appio et al., 2019). On the other hand, better environmental management through waste and waste management is also a priority in achieving a sustainable Smart Environment.

Smart Governance and Smart Life show higher percentages, at 77 percent and 72 percent, respectively, which indicates that village governance and the quality of life of the community are on a good track. However, the study also shows that effective communication and strategic planning must continue to be improved to maintain this momentum. These findings are supported by research which found that smart governance relies heavily on strong collaboration between various parties and openness in the decision-making process (Lawelai & Nurmandi, 2024).

Finally, the findings related to smart mobility which received the lowest score of 63 percent underscore the importance of investing in safe and innovative transportation and the provision of adequate internet network services. Digital literacy and access to technology are important foundations for smart mobility that can support various economic and social activities in villages. Based on these results, the village government and local leaders in Bulu Village need to be more motivated to implement the smart village concept in a more holistic way, by ensuring that all smart indicators are met equally. Thus, Bulu Village will not only be a successful example of the implementation of

smart villages in Indonesia, but also bring great benefits to all village communities through improved quality of life, better governance, and the environment.

KESIMPULAN

This research shows that participatory leadership in Bulu Village, Sidenreng Rappang Regency, has contributed significantly to the development of a smart village, with respondents giving excellent ratings on indicators of communication, cooperation, subordinate involvement and decision-making. Despite these positive results, there are still challenges that need to be overcome, particularly in the aspects of decision-making and subordinate involvement that require further improvement. The theoretical implications of this study emphasize the importance of effective communication, cooperation, and subordinate involvement in participatory leadership models, especially in the context of technology-based development such as smart villages.

From a practical perspective, this research provides concrete recommendations for village governments and other local leaders in developing and implementing the smart village concept. To increase the success of smart village development, villages need to ensure the involvement of all elements of the community in the decision-making process and maintain communication and cooperation between stakeholders. This study has limitations, such as limited coverage of one village and a descriptive quantitative approach that lacks depth, so further research with a qualitative approach or case studies in various villages is needed to gain more comprehensive insights.

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