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Digitalization of Data Management: Optimizing the Potential of Tawang Sari Village, Sidoarjo

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Abstrak

Sistem pengelolaan data Desa Tawang Sari saat ini masih bersifat manual. Hal ini menimbulkan kendala bagi perangkat desa dan masyarakat sekitar. Melihat permasalahan tersebut, maka diperlukan digitalisasi sistem pengelolaan data untuk mengatasi permasalahan yang dihadapi oleh pengelolaan Desa Tawang Sari. Pemanfaatan sistem digital diyakini mampu mengatasi permasalahan penyebaran informasi di Desa Tawang Sari. Pengabdian kepada masyarakat di Desa Tawang Sari bertujuan untuk berbagi penerapan sistem pengelolaan data secara digital. Selain itu, program pengabdian kepada masyarakat ini dimaksudkan untuk lebih meningkatkan kolaborasi antara akademisi dan masyarakat. Berdasarkan aspek keamanan dan kemudahan penggunaan, program pengabdian kepada masyarakat ini menyediakan Google Forms sebagai alat bantu pengelolaan data. Penggunaan aplikasi Google Forms akan membawa perubahan dari budaya konvensional menjadi budaya paperless. Program pengabdian kepada masyarakat ini telah membuka potensi pengelolaan data desa yang belum tergalai menjadi lebih andal.

Kata kunci: *Digitalisasi, Pengelolaan Data, Desa Tawang Sari, Pengumpulan Data*

Abstract

The current data management system of Tawang Sari Village is a manual. This creates obstacles for village officials and the community around them. Looking at the problem, it is necessary to digitize the data management system to tackle issues faced by the management of Tawang Sari Village. The use of digital systems is believed to be able to handle the problem of information dissemination in Tawang Sari village. The community service at Tawang Sari Village aims to share the implementation of a digital data management system. In addition, the community service program is intended to enhance further collaboration between academia and the community. Based on security and ease of use, the community service program offers Google Forms as a tool for data management. Using Google Forms applications will bring changes from a conventional to a paperless culture. The community service program has unlocked the untapped potential of village data management to be more reliable.

Keywords: *Digitalization, Data Management, Tawang Sari Village, Data Collection*

INTRODUCTION

The development of technology integrated with the internet has an important role in data collection and management. Many applications can be used to support the creation and distribution of online-based and free questionnaires. One software that is easily accessible, free to use, simple in operation, and good enough to be used as a medium for making and distributing questionnaires is Google Forms. Using the Google Forms application will bring changes from a conventional to a paperless culture. Paperless culture is a new form of culture in making questionnaires in the era of information technology that does not use paper in making and distributing questionnaires, and data tabulation is done automatically and online (Yunefri et al., 2021). The Google Forms application is a web-based application that makes it easy for users to access it using computers, laptops, and devices regardless of place and time as long as there is an internet network. Google forms are widely used in managing data.

Tawang Sari Village is one of the villages located in Taman, Sidoarjo. Tawang Sari Village has great potential to become a village with residents who have decent jobs and support economic growth. Tawang Sari Village still uses written manual data collection as a recap of Tawang Sari Village community data so that it is considered less effective and takes a lot of time for village administrators. Data management will help facilitate reading, processing, and storing data so that the development of non-spatial village data (both numerical data and attribute data) can be updated without overlapping, to do data collection manually so that the time required becomes inefficient (Rahman et al., 2022). the problem of the loss of data that has been data by officers becomes ineffective work.

Based on these conditions, the Community service team of the Economics Study Program was called to conduct training on digitizing data management as a form of community service. The Community service Team of the Economics Study Program jumped in as volunteers who directly invited the Tawang Sari Village management to upgrade the management of Tawang Sari Village data using online media google forms that are easily accessible by Tawang Sari Village administrators.

In an ever-changing and connected digital world, it is important to realize that our data is a valuable asset that requires protection. Through preventative measures such as the use of strong passwords, software updates, and good digital awareness, individuals can minimize their risk of cyber threats and keep their data safe. Integrating data security habits into our daily digital lives is a worthwhile investment to protect ourselves and maintain our digital integrity in this modern era (Hartono, B. 2023).

METHODS

The method of approach offered to solve partner problems that have been mutually agreed upon and the stages in implementing the solutions offered to overcome the main problems of the Tawang Sari Village management within the period of program realization are as follows.

This activity begins with a survey of the location of Tawang Sari Village to see the conditions and coordinate with the Village Head and Youth Organization in Tawang Sari Village. The survey results show that the village data collection system is still manual-based and needs innovation and improvements that support it so it is considered less effective and takes a lot of time for village officials to manage data. Based on these conditions, the Community service Team of the Economics Study Program was called to conduct data management digitization training as a form of community service. For the smooth running of training activities, preparation of needs related to tools and materials that will be used for training on the use of digital governance systems, namely the basic concepts of data digitization and ways to use Google Form.

Data management digitization training is planned to be held in June 2024 in Tawang Sari Village. Participants who attended came from the Tawang Sari Village management and the surrounding community. The material was delivered to Tawang Sari Village administrators as well as an explanation of tutorials and methods for using Google Forms. This method was chosen to convey basic methods that can be mastered by Tawang Sari Village administrators, including how to create emails, create

questions to the final stage of data recap through Google Sheets.

Tawang Sari Village Management directly received guidance and immediately tried how to use Google Forms as a new forum for collecting data on the Tawang Sari Village community and utilizing the latest technology through gadgets or computers owned by the Tawang Sari Village management so that it can shorten the time in collecting data on the Tawang Sari Village community and data from the collected community will be collected automatically by Google Forms neatly and in real-time. In addition, the use of Google Forms also saves costs because the Tawang Sari Village Management does not need to distribute paper and ask respondents to fill out forms directly.

The evaluation of the activity will be carried out by distributing questionnaires through google forms which will be shared with each participant's cell phone number, namely the Tawang Sari Village management. This evaluation questionnaire contains an evaluation during implementation and also an evaluation related to the performance of the system developed.

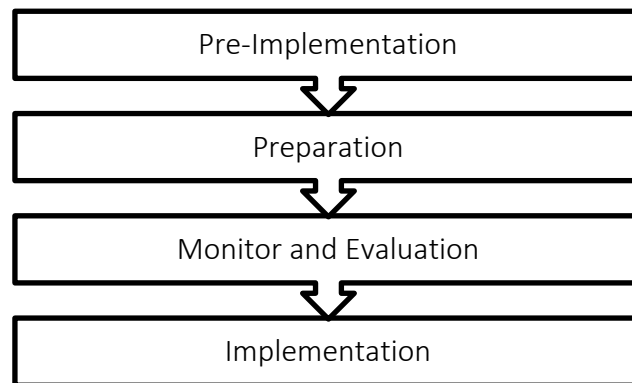


Figure 1. Chart of implementation method

RESULTS AND DISCUSSION

Based on the implementation of activities carried out by the Community service Team of the Economics Study Program in Tawang Sari Village, the village administrators are now able to understand the delivery of material that has been explained by the Community service Team of the Economics Study Program about Google Forms. Google forms is a form facility that can be used to obtain a person's data in the form of a questionnaire or registration, provided by the Google platform which can easily be used for free in Google Drive (Rahardja, U et al., 2018).

Google Forms itself is a Google service that makes it easy for users to create surveys, polls, forms, etc. online or digitally. With this feature, it is not surprising that many individuals, organisations, and businesses use this service for various purposes. In the form, you can fill it with criticism, reviews, suggestions, feedback or feedback, evaluation data, to the need for forms for research (Kusuma, A. R. M. B., et al., 2023). The questionnaire function of Google Forms is often used in the fields of business, education, and scientific research. Google Form is easily accessible and supports collaboration in real-time. With this ability, users can get responses and data from users directly, after the form is filled in.



Figure 2. Presentation of the introduction and procedures for using Google Forms

Tawangasari village is one of the villages in the Taman sub-district, Sidoarjo Regency, East Java. Tawangasari Village has a village office located in RT 40 RW 10 Tawangasari Village, Sidoarjo Regency, East Java. The head of RT 40, Mr. Aji Prasetyantoro, explained that every village official must have expertise in utilizing information technology to provide good service to the community.

In serving the community, Tawangasari Village is very concerned about quality and community satisfaction. Village officials serving the community still use a manual system, while in this era of technological development, everything must be done quickly and easily (Danuri, M. (2019)). To conduct surveys, they still visit people's homes and record manually. In addition to the problem of manual data collection, in terms of data storage and backup of village data, village officials still use office PCs/Laptops, Flash Disks or external hard drives that are vulnerable to virus attacks and data loss. Then when there are village officials who are on duty outside the office and need data on the office PC/Laptop, it takes time to open the PC/Laptop and copy the data, and send the data. The utilization of information technology such as Google Forms is still not used due to the lack of knowledge of village officials about Google Forms (Ikhsan, A. N., et al., 2022)

The institutional governance of Tawangasari Village still uses a manual system. This creates obstacles for village officials and the community around Tawangasari Village. Seeing this problem, it is necessary to digitize the governance system to become one of the solutions in dealing with the village and city gap. The use of digital systems is believed to be able to handle the problem of information dissemination in villages (Alvaro et al., 2019).



Figure 3. Tawangasari Village Management trial using Google Forms

Based on the partner's problems above, the science and technology (IPTEK) and solutions offered in this Community service program are to provide training and learning about digital-based data collection and governance systems using Google Form (Gform). Google forms is a service that makes it easy for users to collect data. This online-based form is based on questions or questionnaires that can be customized by the creators. Google form is very helpful in capturing data thoroughly on participants who aim to improve weaknesses in the old system and reduce problems that often occur and are expected to facilitate the administration in the management process of population data (Siregar, S. R. S., et al 2016).

With this training activity, Tawangasari Village administrators are expected to be able to understand clearly and be able to implement the data collection and governance system optimally for now and in the future. Furthermore, with this activity, village governance and data collection in the future can be carried out efficiently and provide a transparent system to all village communities. With the solutions offered above, it is hoped that it can help service partners in overcoming problems and developing village governance more effectively through a digital data collection system. In addition, it is also expected to increase the independence and economic welfare of service partners and help improve the economy in the area.

After knowing what Google Forms are and their functions, the Tawangasari Village administrators

know that Google Forms also offer many benefits. The main benefit of using Google Forms is quite significant in the data collection section. In addition, another benefit of Google Forms is that it shortens time. In making a survey, the survey maker only needs to send a link to the respondent. The data from the collected respondents will be collected automatically by Google Form neatly and in real-time. In addition, the use of Google Forms also saves costs because it does not spend more energy and costs for paper and ink. Users do not need to distribute paper and ask respondents to fill out the form directly.

From the presentation of the material that has been explained, it can now be understood how to use Google Forms as follows:

Step 1: Access Google Forms

The first step is to sign in to your Google account. If you are already logged in, open a new tab or window in your web browser and type "Google Forms" in the Google search field, or you can go directly to <https://forms.google.com>.

Step 2: Creating a New Form

Once you have logged into Google Forms, you will see a "+ Blank" button in the top right corner. Click this button to create a new form.

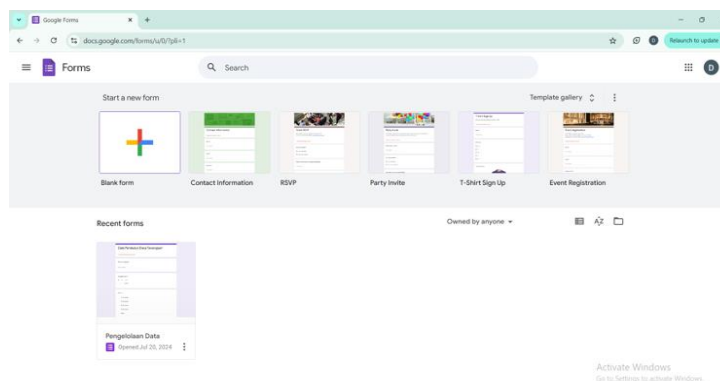


Figure 4. The blank page of the Google form

Step 3: Title and Description

You will be taken to a new page where you can give your form a title and, if necessary, add a description. The title and description should be clear and reflect the purpose of your form.

Step 4: Making Questions

This is the main part of creating Google Forms. You can add questions by clicking the "+ Add Question" button below the title and description. Here are some types of questions you can add:

1. Multiple Choice Questions: This is the most common type of question. You provide respondents with several answer options, and they choose one or more appropriate answers.
2. Short fill-in-the-blank questions: Respondents answer the question with one or a few words. This is suitable for questions with short or short answers.
3. Long Fill-in Questions: These are similar to short fill-in questions, but are more suitable for longer answers, such as essay or commentary questions.
4. Multiple Choice Questions with Pictures: You can include images as answer options in multiple choice questions. This is useful if you want respondents to choose a picture as an answer.
5. Linear Scale: This is a type of question where the respondent gives a judgment by moving a marker along a linear scale. Suitable for measuring preference or judgment.
6. Grid Options: You can create a grid with questions on one axis and choices on the other. This is useful for surveys that involve comparing different options.

Step 5: Editing and Organizing Questions

Once you have added questions, you can edit and organize them as per your needs. You can change the question text, add or remove answer options, or change the question type if necessary.

Step 6: Setting the Theme

You can choose a theme or style for your form by clicking on the "Theme" icon in the top right corner.

This allows you to customize the appearance of your form according to your preferences.

Step 7: Setting the Settings

You can set various form settings by clicking on the "Settings" icon in the top right corner. This includes setting who can fill out the form, scheduling a form closing time, or allowing respondents to submit responses more than once.

Step 8: Viewing Responses

Once you are satisfied with your form, you can start sending it to respondents. You can view the collected responses by clicking on the "Responses" tab. You can view the responses in the form of a spreadsheet or graph that you can analyze.

Step 9: Share and Collect Responses

To collect responses, you can share the form through a link or incorporate it into your website. You can also send the form via email or share via social media. Once respondents fill out the form, the responses will automatically go into a spreadsheet that you can access.

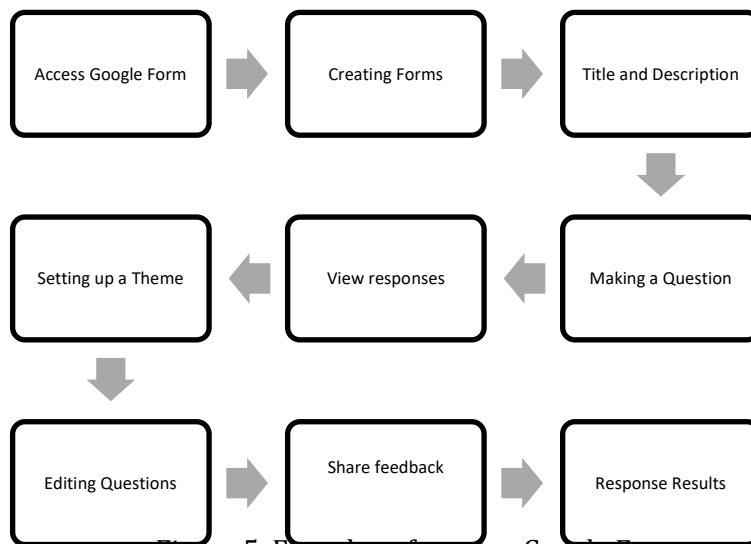


Figure 5. Flowchart for using Google Forms

In addition to getting an explanation of how to use Google Forms, it also explained how to send a link from Google Form as follows:

1. Sending a link by Email

If you want to send a Google Form via email, select the tab with the email image (leftmost tab). You need to write the email address (To), email title (Subject), and email description (Message). There is an additional option to include the form in the email (Include form in email). With this option, respondents can directly fill out the form from their email without having to open the actual form. However, keep in mind that this additional option can only be used in Gmail.

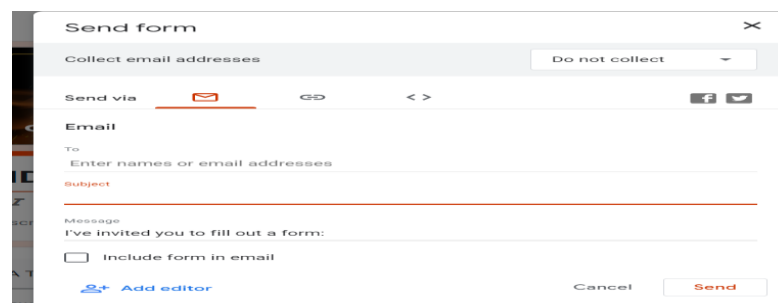


Figure 6. Sending a Google form link via email

2. Send with link

To send a Google Form in the form of a link, you just need to open a second tab (the tab with the link image) and copy the link. You can also check the Shorten URL option to get a shorter URI.

3. Embed Google Form

The third tab is the tab for embed forms. You can later embed or add the form to your website or blog. Google Forms also provides options to adjust the width and height of the form. Keep in mind that this Embed option cannot be used if there is a question in the form of an upload file.

CONCLUSION

The community service program inferred that Tawang Sari village has a high potential to contribute to the surrounding environment. This is supported by the location and diversity of the Tawang Sari village population's backgrounds. This activity is expected to assist Tawang Sari village management in offering an efficient and transparent digital-based data management system. Digital-based data management using Google Forms is expected to provide secure and feasible data management for the village. In addition, this activity is expected to encourage cooperation between academia and the community so that it can have a greater impact.

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