Study of the Digitalization of Population Administration Services Using Population Data in Medan City Regional Development Planning

Adisti Maritadinda Admar[1], Sirojuzilam[2], Badaruddin[3], Rujiman[4]
[1,2,3,4] Regional Planning, Post Graduate School, Universitas Sumatera Utara

ABSTRACT

The continuation of the digitalization of population administration services towards regional development planning through the population utilization system is expected to become a common foundation to overcome various barriers in the effort to optimize data utilization. To improve this in the future, this gap becomes the subject of research. This research studies many aspects, such as recording and documentation, data publication, data development, data utilization, ease of use, quality of data information, and credibility of data administration. We also strive to enhance respondents' understanding of the population information system, what users need for data, and which data can collaborate across agencies. To accelerate the performance of regional development in addressing urgent and long-term issues, easily accessible and valid population data are required. If the data used in planning is not valid, planning that can respond to changes in social conditions becomes difficult. The validity of data referred to not only indicates whether the recorded population events match the actual conditions but also whether the recorded data can depict the actual numbers. Currently, an improved quality of planning is expected to be produced from the ease of data access for users to utilize in their field of work. As the executing agency handling population administration in Medan City, the Medan City Population and Civil Registration Office has initiated the process of developing a digital population data system. Strategies for optimizing performance continue to be implemented, and this research is expected to encourage population administration managers to support the blessed, progressive, and conducive vision and mission of Medan City.

Keywords: *Digitalization of Services, Population Administration, Regional Development Planning, Utilization of Population Data*

Corresponding Author:

Adisti Maritadinda Admar
Regional Planning, Graduate School, Universitas Sumatera Utara, Indonesia
Email: adisti@students.usu.ac.id

1. INTRODUCTION

Essentially, all residents living in an area demand that the Government provide their rights as citizens. To this end, the government continuously strives to deliver high-quality and sustainable public services. Currently, the provision of public services still faces conditions that do not align with the needs and changes in various areas of social life, nationhood, and statehood. This can occur due to the inability to respond to the transformation of broad values and the effects of various complex development issues.[1]

To enhance quality, ensure the provision of public services by the general principles of good governance, and protect all citizens and residents from abuse of authority in public service delivery, supportive legal arrangements are required. The purposes of the enactment of Law Number 25 of 2009 on Public Services are the realization of clear boundaries and relationships regarding the rights, responsibilities, obligations, and authorities of all parties involved in the provision of public services; the realization of a decent public service system by the general principles of good governance and corporations; the fulfillment of public service providers by legislative regulations; and the realization of legal protection and certainty for the community in the provision of public services.[2]

The government has implemented various innovations to improve public services due to the mismatch between performance and expectations. By applying Bureaucratic Reform in the Population Administration System, innovation has occurred. In the population administration system, the quality of public services has not yet met public expectations, resulting in a low level of public satisfaction. This is indicated by the numerous complaints against public service providers, related to service delays, unaffordable costs, seemingly convoluted procedures, and the attitude of service personnel that does not reflect a public servant demeanor .

With the advancement of technology, the government can electronically control demographic data. In addition to creating population documents, population data is also compiled by the Directorate General of Population and Civil Registration (Ditjen Dukcapil) of the Ministry of Home Affairs. The formulation of the National Identification Number (NIK) is one form of population data. People are expected to have at least one identification card, a Resident Identity Card (KTP), a Family Card (KK), and a registered address card in the population system database with the existence of NIK.[3]

Ministry of Home Affairs Regulation No. 102 of 2019 on Granting Access Rights and Utilization of Population Data regulates cooperation in the use of data. Consequently, the Directorate General of Civil Registration (Ditjen Dukcapil) of the Ministry of Home Affairs collaborates with various ministries and local government agencies to verify data using the available verifier data in Dukcapil. As a result, electronic customer information, also known as E-KYC (Electronic Know Your Customer), is created, facilitating processes such as opening bank accounts, accessing public services, and managing population data online.

To follow the government's program, the City of Medan issued Medan Mayor Regulation Number 31 of 2021 on the Implementation of One Data for Medan City. To accelerate the achievement of the Vision and Mission of Medan City for 2021-2026, relevant parties need to understand and agree to carry out the role of statistics in each area, such as basic statistics, sectoral statistics, and special statistics.[4], [5]

The initiative to launch the One Data Program for Medan City has been a desire since 2018 when Medan City started building a Smart City. Medan City has adopted the Smart City concept since 2018 based on Medan Mayor Regulation Number 28 of 2018 on Smart City to realize an Integrated Management Information System for the Medan Government. The realization of Medan City as a Smart City requires data collection in one system, especially population data. The commitment to develop One Data for Medan City has been mandated in Medan Mayor Regulation Number 31 of 2021 on the Implementation of One Data for Medan City. All Regional Device Organizations (OPD) of the Medan City Government are obliged to support the One Data Medan program by presenting data that is accurate, current, integrated, accountable, easily accessed, and shared.[2]

The data management process in the Medan City government is regulated by Medan Mayor Regulation Number 31 of 2021 on the Implementation of One Data for Medan City. The purpose of establishing One Data is to ensure that data is available, open, and transparent for use in data-based development planning and the formulation of policies for Medan City.[6] Population data is an essential part of Medan One Data as it serves as a reference for all Regional Device Organizations (OPD) within the Medan City Government in implementing programs and activities set in each OPD's strategic plan. Therefore, population data must be optimized so that government policies can be well implemented.[7], [8], [9]

2. RESEARCH METHODOLOGY

This research is descriptive. Descriptive research, according to Widodo and Muchtar, is used to explain social phenomena using various interrelated research variables. Margono emphasized that descriptive method research is a broader study of the use of data. define concepts as terms and definitions used to abstractly describe an event, situation, group, or individual of social science concern. By using this concept, researchers are expected to simplify their thinking by using one word for various events that are related to each other. The term refers to a complex reality.

This study uses a Likert scale to measure variables. According to Sugiyono , the variables to be measured are translated into variable indicators. After that, the indicators are used as a starting point for compiling instrument statements. To collect data, respondents who were members of the "Forum OPD Population and Civil Registration Office of Medan City Year 2022" were given a questionnaire. The questions were divided into four groups. General questions were used to collect information on data requests, types of data, frequency, and purpose of using population data. The second group asked about the expectations and performance of 7 (seven) performance indicators combined into 25 statement items. The third group asked what respondents knew about the population information system. Furthermore, the fourth group of questions addressed what type of data should be collected and what each agency can collect. 89 respondents completed the survey.[10], [11]

3. RESEARCH RESULTS

1) Registration Documentation and Publication of Population Data

One of the main tasks of Disdukcapil Kota Medan, which is responsible for population administration and civil registration, is to register and record population data. Article 8 paragraph (1) of Law No. 24 Year 2013 stipulates that institutions implementing population administration affairs are responsible for registering and recording important events. They must also document the results of population registration and civil registration. There are three statements in the recording and documentation aspect, namely statement (1) about recording and

documenting population data, statement (2) about providing facilities and media to access population data, and statement (3) about periodic and consistent updating of population data.
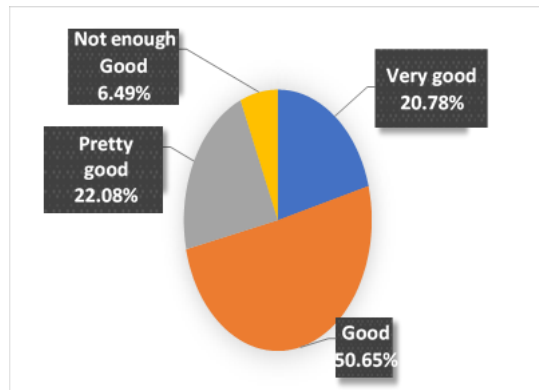

Figure 1: Performance of Disdukcapil of Medan City in Recording and Documenting Population Data

Most people who responded said that Disdukcapil had recorded and recorded population data well. This information was obtained based on the dominance of respondents who gave this assessment, with a distribution of 50.65 percent. Ratings of "fairly good" and "very good" were obtained by 22.08 percent and 20.78 percent of respondents respectively, while 6.49 percent of respondents gave a rating of "not good".
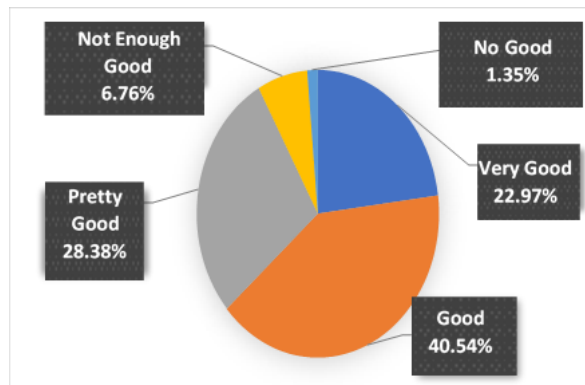

Figure 2. Implementation of Disdukcapil of Medan City in Providing Facilities/ Media for Access to Population Data.

In addition, the performance of Disdukcapil on the item Periodic and Continuous Updating of Population Data was assessed by respondents. They indicated that 59.46% gave "good" and "very good" ratings, 40.54% gave good ratings, and 18.92% gave very good ratings. However, there were still 13.51% of respondents and 1.35% who gave a rating of "poor" and "not good".
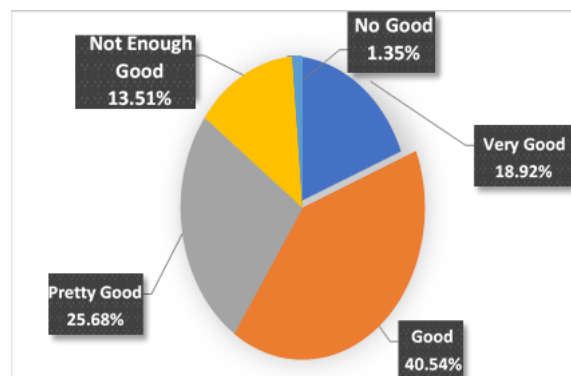

Figure 3: Performance of Disdukcapil of Medan City in Updating Population Data Regularly and continuously.

By comparing the results of respondents' expectations with their performance assessment, we found that respondents have very high expectations of the Disdukcapil of Medan City Government in terms of recording and

documenting population data. This is shown by the fact that 85.71 percent of the selected statements were very important statements, and 11 people, or 14.29 percent of the respondents, stated that it was important.

1. Population Data Publication

One of the additional responsibilities of Disdukcapil Medan City is to publish population data. Minister of Home Affairs Regulation No. 19/2018 Article 4 stipulates that one of the ways to improve the quality of population administration services is to publish all documents that have been issued daily through the website or notice board. It is expected that the implementation of digitization in population administration services will facilitate the dissemination of the latest information related to population data that can be published.
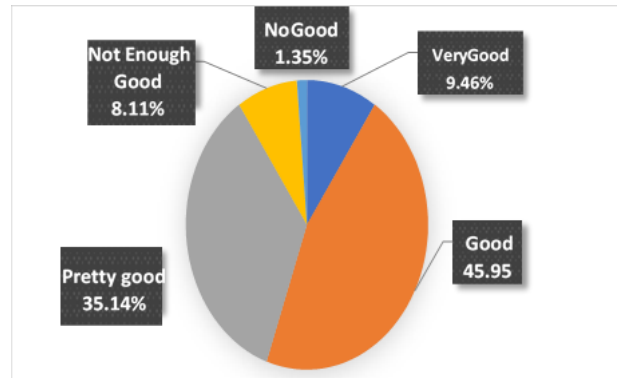

Figure 4: Performance of Disdukcapil of Medan City in Publication of Population Data Information

The majority of responses gave a rating of "fairly good", with 39.47 percent of respondents giving a rating of "good". Furthermore, 32.89 percent of respondents gave a rating of "less", with values of 10.53 percent and 1.32% respectively.

The next assessment was the performance on item (5), regarding the dissemination of information to the public at home and abroad using social/digital media. Respondents who rated it as "good" were the most dominant. 42 percent of respondents gave this assessment. Respondents who rated "very good" were 10.81 percent or rounded up to 11 percent. Of the rest, 37 percent of respondents considered "fairly good", 9 percent considered "not good", and 1 percent considered "not good".
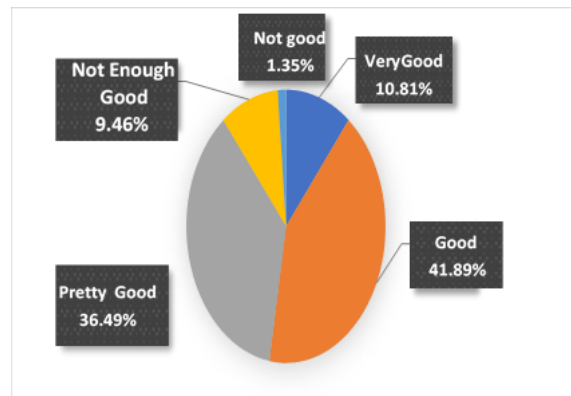

Figure 5: Performance of Disdukcapil Medan City in Disseminating Information to Domestic and Foreign Communities Using Social/ Digital Media

In the last section of the Population Data Publication section, item (6) discusses how Disdukcapil was successful in helping other institutions and individuals access the data publications. 45.95 percent of respondents rated Disdukcapil's performance as "good" on item (6), while 8.11 percent and 1.35 percent rated performance as "poor" and "poor" respectively.
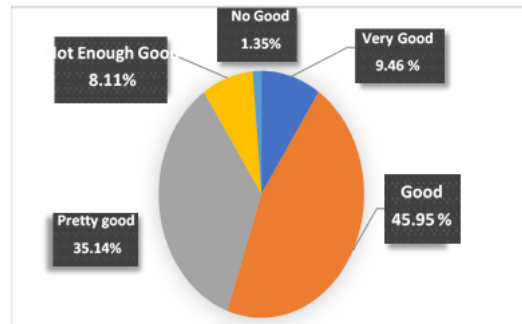
Figure 6. Performance of Disdukcapil Medan City in Facilitating Institutions/ Individuals in Accessing Population Data Information Publications

2. Development and Utilization of Population Data
   a)   Population Data Development

Two statements are included in the Population Data Development section. Statement (7) discusses development through assessment, enrichment, and innovation of population data, and statement (8) discusses cooperation with other institutions or individuals in developing the utilization of population data. Of all participants surveyed, 45% stated that Disdukcapil's performance on item (7) was "good", with a total distribution of 45.21%, which was the highest compared to the other performance assessment options. 4.11 percent of people who responded said "not good", and another 4.11 percent said, "not good". 15.07 percent proportion for the "very good" category.

For more information on the demographic data development component, including cooperation with other institutions or individuals in the development of demographic data utilization. The "good" performance option dominated the assessment of all respondents. 45.83% of the participants stated this. The number of people who considered it poor was 5.56% and poor was 4.17%.

There was a high expectation from respondents for Disdukcapil Kota Medan to carry out development through research, enrichment, and innovation of population data due to its importance. This is indicated by the very important and essential statements dominating the current statement choices, at 98.63 percent. A total of 46 people, or 63.01 percent of the respondents, said it was very important, and 26 people, or 35.62 percent, said it was quite important. None of those who responded said that this item was not important or lacking.[12]

3.   Ease of Use and Quality of Population Data Information

   a.   Ease of Use of Population Data

With the digitization of population administration services, users can more easily use population data. One important effort in the current era is the use of internet-based applications to provide faster and more accessible population services.

Ease of Use of Population Data is an additional element that will be discussed in this study. Six-item statements support performance from a convenience point of view. First and foremost, population data can be accessed easily through the media provided by Disdukcapil Kota Medan. According to respondents' responses, 48.61% rated Disdukcapil Medan City as "good", while 34.72% rated it as "fair". Respondents who stated "poor" and "bad" performance amounted to 5.56% and 1.39% respectively.

Detailed presentation of population data is the next element that supports the convenience aspect. For this item, respondents with a rating of "fairly good" had the largest distribution of 42.47 percent, while respondents with ratings of "poor" and "not good" each had a distribution of 13.70 percent. The "good" and "very good" ratings had a distribution of 36.99 percent and 6.85 percent respectively.

The process between Medan City Disdukcapil officers and population data users is discussed in Statement item (16). The majority of respondents rated this item as "good", with 44.29 percent giving it. The second highest rating was "fairly good", with 37.14% giving their opinion on Disdukcapil's performance under this classification, while 1.43 percent considered it "not good" and 10% considered it "not good".

Statement item 17 addresses how the Disdukcapil of Medan City conveys population data. In the performance assessment of item (17), "good" and "fairly good" responses dominated, at 38.57 percent and 41.43 percent respectively, with "very good" at 11.43 percent. The "not good" and "unfavorable" ratings each occupy the majority of the scores.[13].

b. Information Quality of Population Data

The level of accuracy of population data indicates the quality of the information. Accuracy refers more to processing aggregated population data by statistical rules and ensuring that the information recorded matches the actual situation. The level of data relevance also affects data quality. The extent to which the data shows the actual situation, there is no difference between the number recorded and the documents issued. In addition, the quality of information can also be measured by looking at how easily the results of population data publications are understood.

To achieve public satisfaction in Medan City, Disdukcapil Medan City relies heavily on the quality of population data. Three statements support the use of quality population data. First, item 20 discusses the accuracy of the data publications provided.[14], [15]

Most people who responded rated the performance of Disdukcapil Kota Medan in terms of accuracy, with 44.29% rating it "good"; 35.71% rating it "fairly good"; and another 10% rating it "not good" and "unfavorable". Overall, most people who responded rated the performance of Disdukcapil Medan City on accuracy.

The relevance of the data publication provided is discussed in the next statement item. A percentage of 78.57 percent of the respondents rated it as "good" and "quite good", while 10 percent still rated it as "not good" and "not good". On the 21st item, Disdukcapil performed very well, at 11.43 percent.

The final statement on aspects of information quality related to the ease of understanding the results of population data publications. Similar to the previous statement, in a statement (22), the majority of respondents rated the performance of Disdukcapil as "good" and "fairly good". Meanwhile, only 1.43 percent and 8.57 percent of respondents rated the performance as "poor" and "not good", respectively. With the digitization of population administration services, users can more easily use population data. One important effort in the current era is the use of internet-based applications to provide faster and more accessible population services.

Ease of Use of Population Data is an additional element that will be discussed in this study. Six-item statements support performance from a convenience point of view. First and foremost, population data can be accessed easily through the media provided by Disdukcapil Kota Medan. According to respondents' responses, 48.61% rated Disdukcapil Medan City as "good", while 34.72% rated it as "fair". Respondents who stated "poor" and "bad" performance amounted to 5.56% and 1.39% respectively.[16]

Implications of the Results

Based on the comparison of performance with the level of interest/expectations of respondents on each statement item, the level of satisfaction can be arranged from lowest to highest. The average satisfaction level is at 78.37 percent. There is still a difference of 21.63 percent for the improvement of average performance to meet the level of public satisfaction towards the role of the Civil Registration Office of Medan City, especially about the utilization of digitalization of population administration in supporting regional development planning based on the population data system.[5] Another information is the absence of any statement item that can meet the level of public satisfaction, this is indicated by the satisfaction level of each statement item which is still below 100 percent. Furthermore, if referring to the results of using the Cartesian Diagram, it will provide slightly different insights, because its determination is based on the threshold of the average value of each performance and the average value of each expectation level. Before calculating the threshold, the average performance value and the average expectation level of each statement item are first calculated. This threshold value is used as a reference to classify each statement item into 4 quadrants. Each quadrant has different achievements both in terms of average performance and average expectation level towards the resulting threshold.

CONCLUSION

Law Number 24 of 2013 on Amendments to Law Number 23 of 2006 on Population Administration, Article 8 paragraph (1) mandates the obligation for agencies implementing population administration affairs to record and document significant events, and to document the results of population registration and civil registration. The aspects of recording and documentation consist of (1) the recording and documentation of population data; (2) the provision of facilities/media to access population data; and (3) namely the periodic and continuous updating of population data.

The research results show that the majority of respondents consider the performance of the Civil Registration Office in recording and documenting population data as "good". This information is obtained based on the dominance of respondents giving this assessment, with a distribution of 50.65 percent. Followed by "fairly good" and "very good" ratings of 22.08 percent and 20.78 percent, respectively. Meanwhile, respondents considered "not good" amounted to 6.49 percent of all respondents. The public's assessment of the aspect of Providing Facilities/ Media Access to Population Data carried out by the Civil Registration Office of Medan is also considered good. Of all respondents, 40.54% rate the performance of the Civil Registration Office on this

item as "good" and 22.97% rate it very good. There are 6.76 percent who consider it not good and 1.35 percent who consider it very not good. As for the aspect of periodically and continuously updating population data, the performance of the Civil Registration Office of Medan shows results of 59.46 percent dominated by "good" and "very good" ratings. The distribution is 40.54 percent who rate it good and 18.92 percent rate the performance of the Civil Registration Office on this item as very good. However, there are still 13.51 percent of respondents and another 1.35 percent who state "less" and "not good". 54 percent consider this item good and 18.92 percent consider the performance of the Civil Registration Office on this item very good. However, there are still 13.51 percent of respondents and another 1.35 percent who state "less" and "not good".

Based on the results of the Importance-Performance Analysis using the Cartesian diagram, information was obtained that there are two items (factors) included in quadrant A. This quadrant depicts statement items that are considered important by respondents, yet their performance is still below the objective threshold. The two statement items in question are)The responsiveness provided by officers in responding to public complaints; and 2)The publication of population data informed by the Civil Registry Office of Medan City in more detail.

If we refer to the order of priorities based on the level of satisfaction per statement item, several other items have a relatively low level of satisfaction compared to others, namely regarding (1) the periodic and continuous updating of population data, (2) the interaction between the Civil Registry Office and users of population data becoming more intense (3) media to utilize population data that is more user-friendly.

REFERENCES

[1]   R. Nur Ilham, K. Amalia Fachrudin, A. Syahputra Silalahi, And J. Saputra, "Comparative Of The Supply Chain And Block Chains To Increase The Country Revenues Via Virtual Tax Transactions And Replacing Future Of Money," 2019. [Online]. Available: Http://Excelingtech.Co.Uk/

[2]   I. E. Kanat And S. Özkan, "Exploring Citizens' Perception Of Government To Citizen Services: A Model Based On Theory Of Planned Behaviour (Tbpss)," *Transforming Government: People, Process And Policy*, Vol. 3, No. 4, Pp. 406–419, Apr. 2009, Doi: 10.1108/17506160910997900.

[3]   I. Wayan Mertha, "History Learning Based On Wordwall Applications To Improve Student Learning Results Class X Ips In Ma As'adiyah Ketapang," Law And Social Sciences |Ijerlas.

[4]   Mahfud, C. Hermawan, D. A. Pradana, And H. D. Susanti, "Developing A Problem-Based Learning Model Through E-Learning For Historical Subjects To Enhance Students Learning Outcomes At Sma Negeri 1 Rogojampi," In *Iop Conference Series: Earth And Environmental Science*, Institute Of Physics Publishing, Jun. 2020. Doi: 10.1088/1755-1315/485/1/012014.

[5]   "21671-Article Text-66928-1-10-20220808".

[6]   R. Nur Ilham, R. Juanda, M. Multazam, And A. Saifanur, "Relathionsip Between Money Velocity And Inflation To Increasing Stock Investment Return: Effective Strategic By Jakarta Automated Trading System Next Generation (Jats-Ng) Platform."

[7]   "Product_Quality_On_Consumer_Purchase_Interest_With".

[8]   R. Nur Ilham And I. Sinta, "Effect Of Organizational Commitment, Work Motivation And Leadership Style On Employee Performance Of Pt. Aceh Distribus Indo Raya."

[9]   D. Susanti, M. Sugiat, E. Grace, R. Shinta Dewi, And A. Sudirman, "Reflection On Purchase Decisions For Ulos Handicraft Products From The Marketing Mix Aspect," *Kne Social Sciences*, Pp. 413–424, Jul. 2022, Doi: 10.18502/Kss.V7i10.11381.

[10]   A. Saha, G. Endüstrisinde, S. Atık, Y. Için Döngüsel, And E. Stratejileri, "Circular Economy Strategies For Sustainable Waste Management In The Food Industry Circular Economy Strategies For Sustainable Waste Management In The Food Industry A N A H T A R K E L İ M E L E R," *Journal Of Recycling Economy & Sustainability Policy 2023*, Vol. 2, No. 2, Pp. 1–15, [Online]. Available: Https://Www.Researchgate.Net/Publication/372909748

[11]   N. Pidgeon, C. Demski, C. Butler, K. Parkhill, And A. Spence, "Creating A National Citizen Engagement Process For Energy Policy," *Proc Natl Acad Sci U S A*, Vol. 111, Pp. 13606–13613, Sep. 2014, Doi: 10.1073/Pnas.1317512111.

[12]   A. Harahap, "Dan Binary Search Pada Aplikasi Mandailing Berbasis Web (Studi Kasus : Sdn 0309 Pagaran Bira) Mandailing Berbasis Web (Studi Kasus : Sdn 0309 Pagaran Bira)," 2019.

[13]   H. Kopackova And P. Libalova, "Quality Of Citizen Reporting Tools At Municipal Level," *Journal Of Information Systems Engineering And Management*, Vol. 4, No. 3, 2019, Doi: 10.29333/Jisem/5891.

[14]   J. Batista, A. Hassan, And E. Bonjour, "Design Thinking To Enhance Requirements Analysis In Systems Engineering," In *Proceedings Of The Design Society: Design Conference*, Cambridge University Press, 2020, Pp. 2255–2264. Doi: 10.1017/Dsd.2020.257.

[15]   V. Singh, "Role Of Institutions In Public Management: Developing Case Studies For Divergent Policy Systems," *Front Polit Sci*, Vol. 6, May 2024, Doi: 10.3389/Fpos.2024.1258811.

[16]   Y. H. Kim, F. J. Sting, And C. H. Loch, "Top-Down, Bottom-Up, Or Both? Toward An Integrative Perspective On Operations Strategy Formation," *Journal Of Operations Management*, Vol. 32, No. 7–8, Pp. 462–474, 2014, Doi: 10.1016/J.Jom.2014.09.005.