ANALYSIS OF DIGITAL POPULATION IDENTITY SERVICES IN THE CITY OF BANDUNG

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ABSTRACT. The Digital Identity Card (DIC) activation program aims to improve the efficiency and access to public service data. Bandung, as one of the cities implementing the DIC program, has relatively advanced digital infrastructure, but DIC activation rates remain low (3.8%) compared to the national target of 30%. The purpose of this study is to descript the implementation of DIC services, identify factors that support and hinder DIC achievement, and formulate strategies for improvement. The study uses a descriptive qualitative approach with data collection techniques through in-depth interviews, observation, and documentation studies. The research informants consisted of regional leaders, service implementers, and service users. Data analysis was carried out through data reduction, data presentation, and conclusion. The theory underlying this research analysis was Zeithaml's public service quality theory with five dimensions, namely tangibles, reliability, responsiveness, assurance, and empathy. The results show that the tangibles dimension (availability of applications and facilities) is adequate, but there are significant obstacles in the reliability dimension due to central data managerial and user device constraints. The responsiveness dimension, through the "jemput bola" (proactive) strategy and the "Mepeling" mobile service, has proven to be a key factor in the success of areas with the highest achievements, such as Astana Anyar District (7.8%). Analysis through map data presentation confirmed the existence of disparities in achievement between regions, were influenced by the level of digital literacy and public trust in data security (Assurance). The recommended improvement strategy is to strengthen technical system reliability and optimize proactive region-based services to pursue the national DIC activation target.

Keywords: Activation achievement, service quality, responsiveness, digital literacy, data security, system reliability, proactive.

INTRODUCTION

Digital transformation is a strategic agenda in modern governance, including in the population administration sector. The Indonesian government, through the Ministry of Home Affairs, has developed Digital Population Identity (DIC) as a public service innovation that is expected to improve efficiency, data security, and ease of access to population services.

The city of Bandung is known as one of the cities with a relatively high level of information technology adoption. According to BPS data from the 2024 Susenas Survey, 72.78 percent of Indonesia's population had access to the internet in 2024 and 69.21 percent in 2023. Apart from DKI Jakarta Province, West Java Province is also in the high category. Among the regencies and cities in West Java Province, Bandung City is the city with the highest mobile phone ownership rate, reaching 77.5% (BPS Kota Bandung, 2024).

The high number of internet users and mobile phone ownership in Bandung City provides a great opportunity for the implementation of DIC. However, data show that the achievement of DIC activation is not yet commensurate with this potential. The launch of the DIC program has not gone as expected. The DIC achievement target in Bandung City has only reached 3.8% of the national target of 30% in 2024. This indicates problems in the aspects of policy implementation and the quality of DIC services (https://disdukcapil.bandung.go.id)

Previous studies (Aseng Yulanda, et al. 2023; Restu, 2023) show that the success of public service digital transformation is not only determined by technological readiness but also by factors such as human resources, public digital literacy, public acceptance of service innovations, the quality of DIC applications, supporting facilities, and access to applications. Therefore, this study is important to analyze the implementation of DIC services in Bandung City with an emphasis on the quality of public services and the equitable distribution of DIC activation achievements by region so that this study is able to analyze the implementation of DIC services in Bandung City from the perspective of service quality. It explores the supporting factors and obstacles faced by the Bandung City Government in implementing DIC activation, as well as formulating strategies to improve DIC services in order to achieve higher quality, faster, and more accurate public services.

THEORETICAL STUDY

Previous research relevant to the implementation of Digital Identity in various regions in Indonesia, which is one of the references in this study, is the first study by Aseng Yulanda, et al (2023): The research focused on the innovation of the DIC program in improving service quality, with the research results showing that DIC is very effective in overcoming physical obstacles, namely lost or physically damaged electronic ID cards (KTP-el), but in terms of effectiveness of use, it is highly dependent on the level of IT literacy or digital literacy of the community. Second, Permadi, et al (2023): the aspect of budget efficiency is the main aspect highlighted. The research findings state that the transition from electronic ID cards to DIC can significantly reduce the cost of procuring blank electronic ID cards and accelerate data verification access in the banking sector. Third, Restu, WS (2023), a study in Bandung Regency, revealed that the main obstacle in activating DIC is not the readiness of the government system, but the lack of massive socialization at the grassroots level. Fourth, Tukan et al. (2023) researched the implementation of DIC in an island region (Lembata), focusing on Standard Operating Procedures (SOPs), data security, and the difficulty of building public trust in digital services. None of the four previous studies have revealed aspects of Tangibles, Reliability, Responsiveness, Assurance, and Empathy in the implementation of the DIC activation program in Bandung City.

Transformation and E-Government in Public Services

Digital transformation in the public sector is understood as the process of utilizing information and communication technology to improve the quality of public services, bureaucratic efficiency, transparency, and community participation. The concept of e-government has developed as a strategic framework for the use of digital technology in interactions between the government and citizens (government to citizen), the business world (government to business), and between government agencies (government to government) (Indrajid, 2022).

With the development of mobile technology, e-government has evolved over time into mobile government, which allows public services to be accessed flexibly through mobile devices. Mobile-based services provide opportunities to increase service accessibility, but at the same time pose new challenges in the form of the digital divide, human resource readiness, and data security and privacy. Kuschu (2007), Lallana (2008).

Service Quality Theory - Zeithaml

The quality of public services has been discussed by many experts, including Hardiansyah (2011), Dwiyanto (2017), and Zeithaml (2005, 2009, 2018), who generally emphasize technical dimensions, namely reliability, responsiveness, and trust, as important dimensions in measuring public services. The research on

the analysis of DIC implementation in Bandung City was analyzed using Zeithaml's theory (2005) because this theory is suitable for measuring technical dimensions in digital services such as DIC. In addition, this theory also states that service quality can be assessed from the gap between customer expectations and their perceptions of the services received. The Service Quality Theory, known as the ServQual model, was developed by Valarie A. Zeithaml, Parasuraman, and Berry (2005). In this theory, service quality refers to whether the service provided meets or exceeds the expectations of service users, namely the community receiving DIC activation services. This Service Quality theory consists of five dimensions of service quality, namely Tangibles, Reliability, Responsiveness, Assurance, and Empathy. The description of these five dimensions is as follows:

1. Tangibles: interpreted as physical appearance, which can be in the form of facilities, equipment, personnel, and communication tools. This dimension includes the availability of applications on smartphones, the application user interface, and supporting facilities at the Bureau of Population and Civil Registration office and UPT in the sub-district.
2. Reliability indicates the reliability of services, which is the ability of government agencies to provide services correctly, accurately, and consistently in accordance with their promises or commitments.
3. Responsiveness: The willingness of officers to assist the community and provide services quickly. This is measured by how quickly officers or operators at the Bureau of Population and Civil Registration or sub-district offices respond to residents' complaints regarding system failures in the DIC activation process.
4. Assurance: The knowledge and politeness of officers and their ability to foster trust and confidence. DIC is a digital service. In this case, assurance is crucial in terms of cyber security and personal data protection to prevent identity theft.
5. Empathy: Providing sincere and individualized attention to users. This dimension can be seen in the government's efforts to provide services that are easily accessible to all groups, including the elderly or residents with limited access to technology.

Digital Identity as a Public Service Innovation

Digital Identity is an electronic representation of population data displayed through a digital application on a mobile device. DIC was developed as part of the national population administration policy to improve service efficiency, data accuracy, and the security of population documents, Gatiningsih (2023).

From a public service perspective, DIC can be understood as a service innovation that changes the pattern of interaction between the government and citizens. The implementation of DIC requires institutional readiness, competent officials, digital literacy among the public, and guarantees for the protection of personal data. Therefore, the success of DIC services is not only determined by technological aspects, but also by the government's ability to provide quality services, Zudan (2022).

RESEARCH METHOD

This study uses a qualitative descriptive approach, which is a study that aims to describe social phenomena in depth based on non-numerical data (Nasution, 2023). The research location was the Population and Civil Registration Office of Bandung City and several sub-districts in the Bandung City area with high, medium, and low DIC achievements. The research informants were determined purposively, including regional apparatus leaders, sub-district heads, DIC service implementing officials, and service users.

Data collection was conducted through in-depth interviews, observation of the service process, and documentation study of DIC activation achievement data. Data analysis was performed using the Miles and Huberman (2014) interactive analysis model, which includes the stages of data collection, data reduction, data presentation, and simultaneous and continuous conclusion drawing and verification. Data validity was ensured through qualitative validity testing, which included source triangulation, technique triangulation, and confirmation of findings with informants (member check).

RESULTS AND DISCUSSION

A. DIC Services in Bandung City

The DIC service in Bandung City began in February 2023 and has been integrated with the SALAMAN innovation application, which allows residents to access population administration services without having to physically queue at the Bureau of Population and Civil Registration Office of Bandung City. In addition, the mobile service program (Mepeling) is used to reach communities in sub-districts and educational institutions.

The DIC achievement rate as of July 2024 shows variation between sub-districts, with the highest percentage in Astana Anyar Sub-district (7.8%) and the lowest in Bandung Kulon Sub-district (1.65%) (see Figure 1). In general, DIC achievement in Bandung City is in the low category, with fifteen sub-districts in the low category with achievements of 1.65% to 4%, eleven sub-districts in the medium category, and three sub-districts in the high category.

The map of Digital Identity Card (DIC) activation achievements in Bandung City in 2024 illustrates the distribution of activation percentages, which vary between sub-districts. Figure 3 shows that southern areas such as Astana Anyar, Buah Batu, and Gede Bage have high DIC activation rates (6% to 8%). Eleven subdistricts, such as Sukasari, Lengkong, Sumur Bandung, Antapani, Bandung Kidul, Ranca Sari, Arcamanik, Cibiru, Panyileukan, Cinambo, and Mandala Jati, are in the moderate category (4% to 6%). Fifteen subdistricts are in the low category, namely Coblong, Babapak Ciparay, Bojongloa Kaler, Andir, Cicendo, Sukajadi, Cidadap, Bandung Wetan, Regol, Batununggal, Cibeunying Kidul, Bandung Kulon, Kiaracondong, Bojongloa Kidul, Cibeunying Kaler, and Ujung Berung (1.65% to 4%). The achievement of DIC activation in the high category indicates that areas with high digital infrastructure and administrative support encourage community participation in implementing DIC, in addition to socialization and outreach programs. Meanwhile, subdistricts in the low category show disparities in achievement, reflecting challenges in equal access and digital literacy in several areas as well as the frequency of direct socialization (see Figure 2).

Analysis of Service Quality at DIC Bandung City (Zeithaml's Perspective)

To determine the factors that influence the implementation of DIC in the city of Bandung, public services were examined using the Zeithaml–Parasuraman–Berry service quality model, known as SERVQUAL. From the perspective of public service users, citizens as service users will view service quality from five perspectives, namely: tangibles, reliability, responsiveness, assurance, and empathy.

1). Tangibles

This "tangible" aspect relates to the "visible" quality of service, which can be seen and felt directly by service users. Some physical details that can be described include: a neat and clean office building or space;

a waiting room equipped with comfortable seating, air conditioning (AC or fan), and toilets; neat and uniformed staff; complete and sophisticated equipment, as well as information boards.

The analysis of DIC service data in Bandung City shows that DIC services can be performed at the Disdukcapil office and at the sub-district office. The service at the sub-district is provided with a special room equipped with infrastructure including a queue machine, a waiting room with seating, information on the DIC service mechanism has been published in the form of SOPs printed on banners, leaflets, Instagram, Facebook, WhatsApp web and other social media. The service process is equipped with computers, wifi, modems and biometric data recording devices. The officers who serve have been trained, have a neat appearance and apply the 3S principle (Greetings, Smiles, Greets). There are special counters for visitors with disabilities and the elderly as well as a form for those who do not have an e-ID. In addition, it was also obtained information that to register and obtain IKD, an application has been prepared called SALAMAN (Completed in the palm of your hand) for residents who have busy schedules do not need to come to the Disdukcapil office or the sub-district office, IKD matters can be completed via mobile phone (HP). Disdukcapil also provides a Mobile Service Car (Mepeling). They can provide direct services by visiting the community during specific events where residents gather in specific locations, such as Car Free Day in Dago, Buah Batu, Batu Nunggal, Braga, Astana Anyar, schools, and others. The tangible aspect of IKD services in Bandung City is quite good, serving both IT-literate and IT-illiterate users, as well as the general public, both disabled and non-disabled.

The "tangible" aspect in this study has been fulfilled, but from the user's perspective, there are other problems, namely that many residents' devices do not meet the technical specifications of the application, so the frequent complaint is "insufficient memory." So, from the tangible aspect, it has been fulfilled, especially from the government's perspective, but there are obstacles in terms of the user interface (application load) and the readiness of user devices. The "tangible" aspect, although not the essence of the service, has a significant impact on the attractiveness of the service, as it creates a lasting impression on users.

2). Reliability

Service reliability indicates the ability of government agencies to provide services correctly, accurately, and consistently in accordance with their promises or commitments. The scope of this reliability includes a) Timeliness, b) Clear and consistent procedures, c) Accurate service results.

The condition of DIC services, especially the performance of the equipment used, still does not guarantee timely completion with good access. Interviews with civil servant informants and the community revealed that there are still failures during the activation process, such as activation emails that never arrive and frequent network errors. Thus, system reliability remains a weak point. Although the system promises convenience, the instability of the central network and applications means that the service cannot yet be fully relied upon independently by citizens. From these facts, it can be concluded that the aspect of Reliability still needs to be improved through central server stabilization and faster data synchronization.

3). Responsiveness

Responsiveness can be understood as the readiness and willingness of managers to help and respond to complaints from users of public services. "Responsiveness" means that public service managers will: a) provide prompt service, b) be attentive and caring, c) respond quickly to complaints.

This aspect is manifested in the form of "Jemput Bola" (proactive outreach) services to schools, campuses (UPI & IPDN), and sub-districts. Officers are quick to help residents who have difficulty activating the service independently. Proactive responses are also demonstrated by officers visiting

community gathering points to accelerate and expand the coverage of DIC. From the dimension of responsiveness, it can be concluded that this responsiveness is the main advantage of DIC services in the city of Bandung.

4). Assurance

This assurance can be understood as a sense of security, trust, and confidence from service users towards the administrators who serve them. This area of assurance consists of: a) Competence of officers, b) Polite, friendly, and convincing attitude, c) Legal clarity & cost certainty, d) Freedom from illegal fees.

The interview results show that staff have good competence (IT skills), but there are doubts and fears among the public regarding the misuse of digital data. Staff have mastered the technical aspects (providing service certainty), but systemic data security assurance still needs to be socialized more strongly to foster public trust. From these facts, it can be concluded that staff knowledge is good (Assurance from the human resources side), but system security assurance (Assurance from the technology side) is still questioned by the community.

5). Empathy

Empathy is defined as personal attention and a humane attitude towards service users. Empathy encompasses aspects of social relations and community values, namely: a) Not treating everyone the same, b) Understanding special circumstances (the elderly, people with disabilities, users who are blind to SOPs), c) Good communication

The interview results indicate that socialization is carried out using an approach that is appropriate to the conditions of the community. The use of Mepeling cars shows empathy for residents who have limited time or access to the Population and Civil Registration Office. In this context, it was found that the government understands the difficulties faced by residents (such as the elderly or busy people) by providing easy access at strategic locations. From this discussion, it can be concluded that the dimension of empathy is well reflected in the ease of access offered through mobile services.

The five aspects formulated by Zeithaml regarding DIC services in Bandung City are summarized in Table 1, as follows:

Table 1. Matrix Summary of Analysis

No	Dimension of Zeithaml (2005)	Field Findings (Informants)	Quality Status
1.	*Tangibles*	The application is available, the Mepeling car is active, but residents' cell phones are often full.	Enough
2.	*Reliability*	There are often problems with activation emails and the central network.	**Needs improvement**
3.	*Responsiveness*	The "proactive" strategy is very effective and fast.	**Very Good**
4.	*Assurance*	The officers are competent, but residents fear data leaks.	Good (HRD)

5.	*Empathy*	Services that reach out to residents, making life easier for vulnerable groups.	Good

Source: Analytical Result, 2024

B. Factors Supporting and Inhibiting DIC Activation

The results of identifying factors affecting DIC achievement variation in Bandung City include the following supporting factors: First, Proactive Services (Proactive Approach), the effectiveness of sub-district officials in conducting direct outreach and mobile services to crowded areas or offices; Second, Digital Infrastructure Quality: Availability of stable internet networks and better accessibility to devices (smartphones) in high-category areas. Third, Administrative Support & Socialization: Collaboration between regional officials and local communities to educate the public about the urgency of DIC.

Obstacles consist of First, Digital Literacy Gap: Uneven public understanding of how the DIC application works and concerns about personal data security. Second, Technical Device Constraints: The minimum smartphone specifications required or full memory often hinder residents when they want to download the application. Third, Lack of Urgency (Perceived Usefulness): Some people feel that physical ID cards are still sufficient for their daily needs, because not all public service agencies require or are fully integrated with DIC. Fourth, Uneven Distribution of Information: Educational efforts are still concentrated in certain areas, so that outlying areas such as Bandung Kulon have less access to information.

CONCLUSIONS AND RECOMMENDATIONS

Based on achievement data up to July 2024, DIC in Bandung City still faces major challenges with average achievements dominated by the low category (1.65% - 4%) in 15 sub-districts. The results of the analysis of DIC services in Bandung City using a qualitative descriptive method show that in terms of tangibles, the availability of applications and service facilities is adequate. However, there are significant obstacles in the Reliability dimension due to central network disruptions and user device constraints. The Responsiveness dimension, through the proactive strategy and the "Mepeling" mobile service, has proven to be a key factor in success, especially in areas with the highest achievements such as Astana Anyar District (7.8%). Analysis through map data presentation also confirms the disparity in achievements between regions, which is influenced by the level of digital literacy and public trust in data security (Assurance).

Supporting factors that can encourage improvements in Proactivity, Digital Infrastructure Quality, Administrative Support & Socialization: Hindering Factors, Digital Literacy Gap, Technical Device Constraints, Uneven Distribution of Socialization Based on these findings, the recommended improvement strategies are strengthening the reliability of the technical system to increase bandwidth, collaboration with universities, government and private organizations for socialization, in addition to increasing the frequency of face-to-face socialization, it is necessary to add material on data security and guarantees that there will be no misuse of user data, there should be segmentation in the implementation of socialization based on age and occupation groups, and optimization of proactive services such as area-based outreach to achieve the national target of 30% DIC activation.

This study has limitations because it uses a quantitative descriptive approach, so it does not directly examine the influence between the independent variable (socialization) and the dependent variable (DIC target achievement). In addition, it does not differentiate socialization methods based on demographic characteristics of the community, such as age and occupational groups, even though these factors have the potential to

influence the effectiveness of socialization. Future research could develop more specific socialization methods by considering age groups (e.g., young people through social media and older people through face-to-face meetings) and occupational groups (e.g., private sector employees, civil servants, and informal workers).

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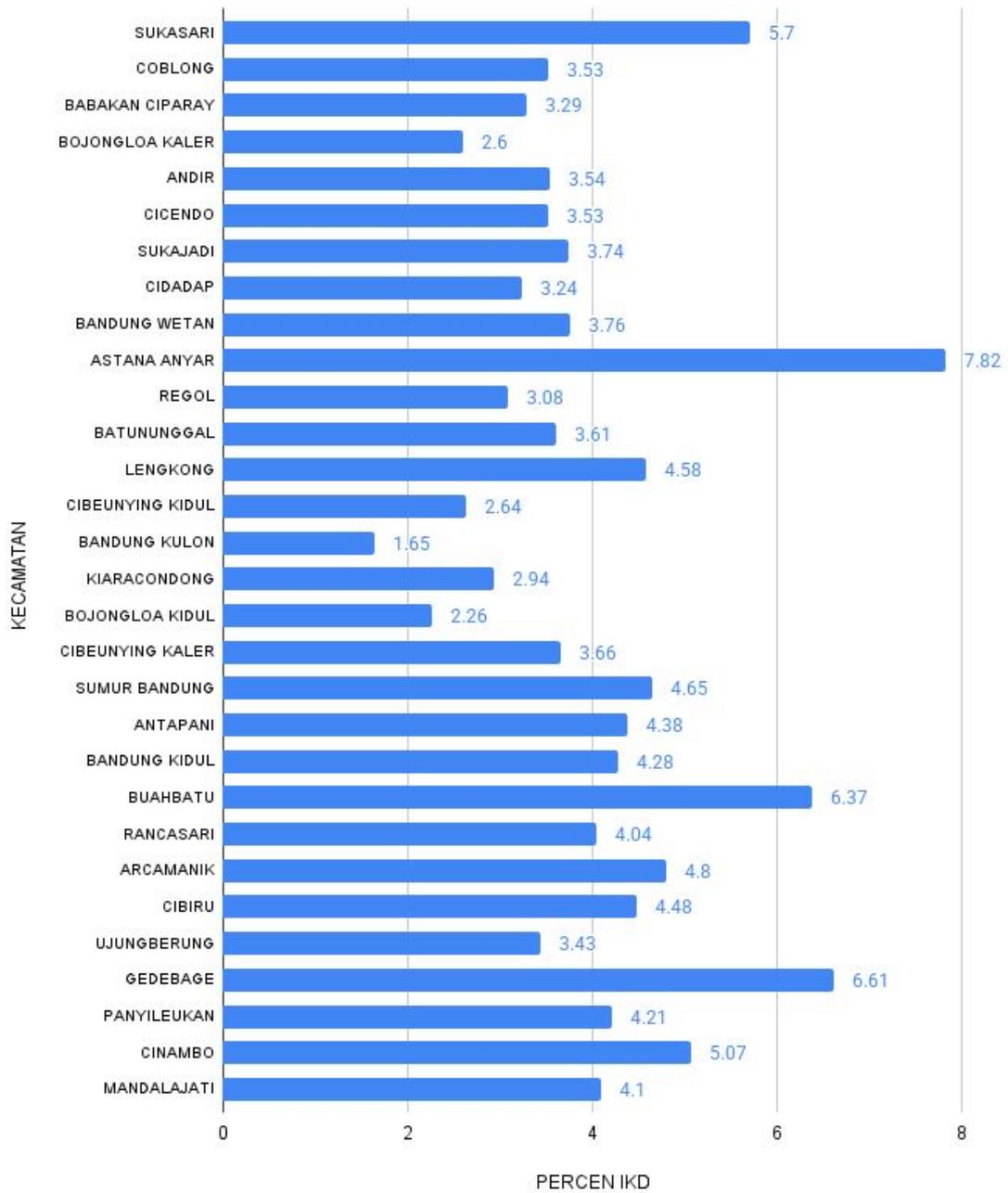
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Figure 1. Graph of DIC Activation Achievements Based on Sub-districts in Bandung City
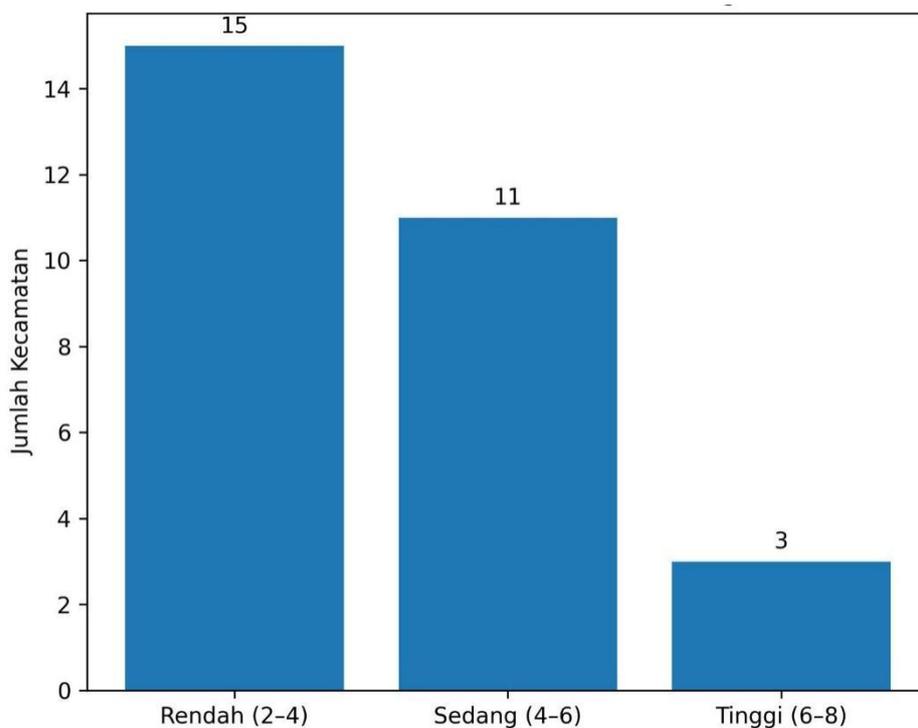
Figure 2. Distribution of Subdistricts Based on DIC Activation Achievement Categories
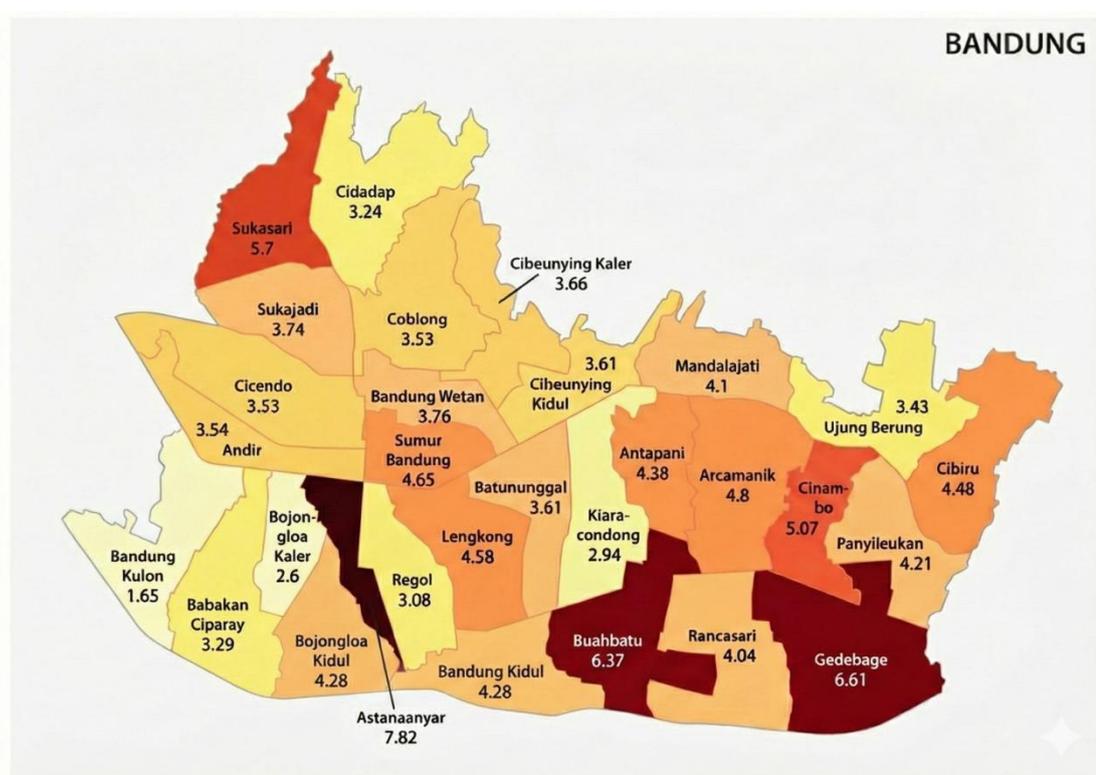

**Figure 3. Map of DIC Percentage Distribution per Subdistrict
in Bandung City in 2024**

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