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Effectiveness Of The Digital Population Identity Program In Bogor City

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A B S T R A C T

This study aims to examine the effectiveness of the Digital Population Identity (IKD) program implemented by the Bogor City Department of Population and Civil Registration. The research adopts a descriptive quantitative approach, with data collected from 108 respondents, including 8 employees and 100 members of the public. Data were obtained through questionnaires using a Likert scale and analyzed using descriptive statistical methods. The results indicate that the implementation of the IKD program can be categorized as generally effective, with an overall assessment falling within the "Good" category. The program has contributed to improving service efficiency, accessibility, and public satisfaction. However, several challenges remain, including limited public understanding, digital literacy barriers, infrastructure limitations, and system integration issues. Therefore, it can be concluded that although the IKD program has been implemented effectively, further improvements are still required, particularly in terms of public outreach, technological support, and institutional coordination to achieve optimal effectiveness.

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INTRODUCTION

The rapid development of information technology has driven governments to enhance the quality of public services through digital transformation. One of the key innovations in population administration is the implementation of the Digital Population Identity (Identitas Kependudukan Digital/IKD), which allows citizens to access their identity documents electronically through mobile applications. This program is intended to improve efficiency, increase accessibility, and enhance the overall quality of population administration services. In Bogor City, the Department of Population and Civil Registration is responsible for implementing the IKD program to facilitate easier public access to administrative services. However, despite its potential benefits, the implementation of the IKD program still faces several challenges. A portion of the community has limited understanding of the procedures and advantages of using the IKD application, which affects their willingness to activate and utilize the service. In addition, technical and social constraints such as low digital literacy, limited technological infrastructure, and the need for direct assistance from officers further influence the effectiveness of the program.

Previous studies have examined digital population identity programs primarily in terms of implementation processes, service quality, and technological readiness. For instance, earlier research highlights that although digital-based public services can improve efficiency, their effectiveness is often constrained by user readiness and infrastructure limitations. However, most of these studies focus on specific aspects of implementation and do not comprehensively evaluate program effectiveness using multidimensional indicators. Furthermore, limited research compares the perspectives of both government employees and the public as service users in assessing program effectiveness. Therefore, this study seeks to fill this research gap by analyzing the effectiveness of the IKD program using a multidimensional approach based on Sutrisno's effectiveness indicators, which include program understanding, target accuracy, timeliness, goal achievement, and tangible change. The novelty of this research lies in its comprehensive evaluation of program effectiveness by integrating multiple dimensions and comparing the perceptions of employees and the public. Through this approach, the study is expected to provide a more holistic understanding of the effectiveness of digital population identity services and contribute to the development of digital governance in public administration.

LITERATURE REVIEW

Program effectiveness refers to the extent to which a program is able to achieve its predetermined goals and produce the expected outcomes. According to Sutrisno (2010), effectiveness can be assessed by examining whether a program is implemented appropriately and whether it generates the intended results. In this context, effectiveness is measured through several key indicators, including program understanding, target accuracy, timeliness, goal achievement, and tangible changes resulting from program implementation. These indicators provide a comprehensive framework for evaluating whether a program delivers meaningful benefits and operates as intended. In the field of public

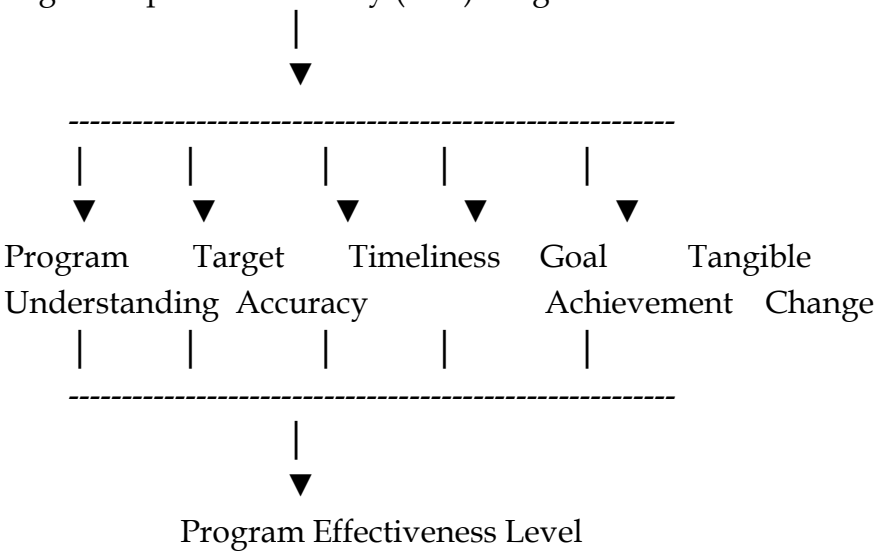
administration, evaluating program effectiveness plays a crucial role in ensuring that government policies and initiatives achieve optimal outcomes. An effective program is not only capable of reaching its intended target groups but also able to improve service quality and generate measurable impacts for the community. Therefore, effectiveness evaluation becomes an essential tool for assessing the success of public sector programs, particularly in the context of service delivery.

Digital Population Identity (Identitas Kependudukan Digital/IKD) is an innovation in population administration that utilizes information technology to manage and store citizens' identity data in electronic form. Based on the Regulation of the Minister of Home Affairs Number 72 of 2022, IKD represents official population documents that can be accessed digitally through electronic devices. This system contains essential personal information, such as name, address, date of birth, and identification number, which supports faster and more efficient access to population data. The implementation of IKD is expected to reduce dependence on physical documents while improving efficiency, data integration, security, and accessibility in public administration. Public service refers to all forms of services provided by the government or public institutions to fulfill the needs and interests of society. These services aim to enhance citizens' welfare and support effective governance.

In the era of digital governance, public services are increasingly supported by technological advancements to improve efficiency, transparency, and service quality. The implementation of digital systems such as IKD reflects the government's effort to modernize administrative services and optimize public service delivery. Based on the theoretical framework above, program effectiveness in the context of the IKD implementation can be analyzed using Sutrisno's multidimensional indicators. These dimensions—program understanding, target accuracy, timeliness, goal achievement, and tangible change—serve as the main variables in assessing the effectiveness of the IKD program. Therefore, this study adopts these indicators as a conceptual basis to evaluate how effectively the IKD program has been implemented in improving digital-based public services. In this study, the concept of program effectiveness is operationalized into measurable research variables based on Sutrisno's framework. Each dimension is translated into specific indicators that can be empirically assessed through respondents' perceptions. Program understanding reflects the extent to which individuals comprehend the purpose and procedures of IKD, while target accuracy measures whether the program reaches the intended users. Timeliness is associated with the efficiency of service delivery, and goal achievement evaluates the extent to which the program meets its intended objectives. Furthermore, tangible change represents the real impact of the program, particularly in improving the quality and accessibility of public services. These variables serve as the primary basis for analyzing the effectiveness of the IKD program in this study.

METHODOLOGY

1. Research Approach
   This study employs a quantitative approach, which utilizes numerical data analyzed through statistical techniques to explain the phenomena under investigation. This approach is considered appropriate for measuring the level of effectiveness of the Digital Population Identity (IKD) program based on respondents perceptions.
2. Research Method
   The research method used is a descriptive method. This method aims to systematically and accurately describe the condition of the variables studied without examining causal relationships between variables. It focuses on providing an objective overview of the effectiveness of the IKD program.
3. Population and Sample
   The population of this study consists of all employees of the Department of Population and Civil Registration of Bogor City as well as members of the public who utilize the IKD service. The sample includes 108 respondents, consisting of 8 employees and 100 members of the public.
4. Sampling Technique
   A census (total sampling) technique is applied to employees, as all members of the population are included in the study. Meanwhile, purposive sampling is used to select members of the public, with criteria based on individuals who have used or are familiar with the IKD service. This technique is chosen to ensure that respondents have relevant experience related to the research topic.
5. Data Collection Techniques
   Data were collected using several techniques, including questionnaires, observation, and documentation. The questionnaire was distributed to respondents using a Likert scale to measure their perceptions of program effectiveness. Observation was conducted to gain a direct understanding of the implementation process, while documentation was used to obtain supporting data related to the IKD program.
6. Conceptual Framework
   Digital Population Identity (IKD) Program



RESEARCH RESULT

In examining the effectiveness of the Digital Population Identity (Identitas Kependudukan Digital/IKD) program implemented by the Department of Population and Civil Registration of Bogor City, this study adopts the program effectiveness framework proposed by Sutrisno (2010). This framework emphasizes that the success of a program is not solely determined by the availability of resources, but also by several key dimensions, namely program understanding, target accuracy, timeliness, goal achievement, and the tangible changes generated by the program.

Based on this framework, this study measures respondents' perceptions of indicators associated with each dimension of program effectiveness. The main objective of this research is to evaluate the effectiveness of the IKD program implemented by the Department of Population and Civil Registration of Bogor City. To achieve this objective, the collected data were analyzed using quantitative descriptive methods in order to provide a comprehensive overview of the level of IKD effectiveness based on respondents' perceptions.

The findings indicate that the IKD program has generally been implemented effectively, although several aspects still require improvement. These findings are consistent with previous studies, which suggest that digital-based population administration programs are able to improve service efficiency and accessibility, but often face challenges related to limited public understanding, digital literacy barriers, and technological constraints. Compared to earlier studies that tend to focus only on specific aspects such as service quality or implementation processes, this study provides a more comprehensive evaluation by examining program effectiveness through multiple dimensions based on Sutrisno's framework. The results of the data processing and analysis are presented in the following section.

1. The dimension of Program understanding represents a crucial aspect in the implementation process to ensure that a program can be carried out effectively and optimally. Adequate understanding enables all parties involved to perform their respective roles in accordance with the intended objectives. In this study, the dimension of program understanding is measured through four indicators, namely awareness of the Digital Population Identity (IKD) program, understanding of how to use IKD, and the quality of IKD services received. The responses from respondents and employees for each indicator are presented as follows.

   The responses of employees and respondents regarding the program understanding dimension can be seen in Table 1.1.

Table 1.1 Summary of the Dimension of Program

	Staff			**Public**	
No	Item Statement	Mean	Category	Mean	Category
1.	Understanding and assessment of employees' and community knowledge	3,75	Good	4,46	Very Good

	regarding the IKD program				
2.	Understanding of how to use IKD services and the program objectives	4,38	Very Good	3,95	Good
3.	Use of services received	4,75	Very Good	4,09	Very Good
4.	Clarity of program information	3,75	Good	4,15	Good
Total Mean		**4,16**	**Good**	**4,16**	**Good**

Source : Research Findings (2026)

Based on the data presented in the table above, the responses of employees and the public regarding the program understanding dimension of the Digital Population Identity (IKD) program can be identified. Overall, the average score obtained from both employees and the public is **4.16**, which falls into the **"Good"** category. This result indicates that the level of understanding of the IKD program is generally good from both perspectives.

From the employees' perspective, the highest score is found in the indicator use of services received with a mean value of **4.75** (Very Good). Meanwhile, from the public perspective, the highest score is in the indicator knowledge and understanding of the IKD program with a mean value of **4.46** (Very Good). Overall, these results suggest that the implementation of the IKD program is well understood by both employees and the public. Overall, these findings indicate that the program understanding dimension in the implementation of the Digital Population Identity (IKD) program at the Department of Population and Civil Registration of Bogor City is generally well understood by both employees and the public, as reflected in the overall mean score which falls within the "Good" category.

2.The Target Accuracy Dimension

Target accuracy refers to the extent to which a program is able to reach and provide benefits to the intended beneficiaries. This dimension is measured through several indicators, including the reachability of the target group, public access to services, utilization of the services, and the equitable distribution of benefits. Reachability and access indicate whether the target population can effectively access the program, while service utilization and equitable benefit distribution reflect the effectiveness of service use and the fairness in the allocation of program benefits.

Table 1.2 Sumarry Accuracy Dimension

Staff				**Public**	
No	Item Statement	Mean	Category	Mean	Category
1.	Reachability of Program Targets	3,75	Good	4,01	Good
2.	Public Access to Targeted Services	4,38	Very Good	4,22	Very Good

3.	Utilization of IKD Services	3,88	Good	4,21	Very Good
4.	Equitable Distribution of IKD Program Benefits	3,63	Good	4,32	Very Good
Total Mean		**3,91**	**Good**	**4,19**	**Very Good**

Source : Research Findings (2026)

The data in the table show the responses of employees and the public regarding the target accuracy dimension of the Digital Population Identity (IKD) program. Employees reported an average score of 3.91 (Good**)**, while the public gave a higher average score of 4.19 (Very Good)**.** This indicates that the program has generally reached its intended target groups.

Among employees, the highest score is found in public access to targeted services (4.38, Very Good), while equitable distribution of program benefits received the lowest score (3.63, Good). From the public perspective, the highest score is observed in equitable distribution of IKD program benefits (4.32, Very Good). Overall, these findings suggest that the IKD program has been implemented effectively in reaching its target population.

3.The Timeliness Dimension

Timeliness refers to the extent to which a program is implemented according to the planned schedule and meets the needs of its target beneficiaries. This dimension is assessed through several indicators, including the speed of service access, the suitability of service timing, adherence to the service schedule, and the efficiency of time in service delivery.

Table 1.3 Summary The Timeliness Dimension

Staff				**Public**	
No	Item Statement	Mean	Category	Mean	Category
1.	Speed of Service Access	4,13	Good	4,25	Very Good
2.	Suitability of Service Time	4,25	Very Good	4,28	Very Good
3.	Punctuality of Service Implementation Schedule	4,13	Good	4,08	Good
4.	Efficiency of Service Time	4,13	Good	4,44	Very Good
Total Mean		**4,16**	**Good**	**4,26**	**Very Good**

Source : Research Finding (2026)

The table presents the responses of employees and the public regarding the timeliness dimension of the Digital Population Identity (IKD) program. The average score from employees is 4.16, which is categorized as Good, while the public gives a slightly higher average score of 4.26, classified as Very Good. This suggests that the implementation of the IKD program is generally carried out in a timely manner.

From the employees' perspective, the highest score is found in the indicator suitability of service time with a mean value of **4.25 (Very Good)**. Meanwhile, the indicators speed of service access, punctuality of the service schedule, and efficiency of service time are rated **Good**. From the public perspective, the highest score appears in efficiency of service time with a mean value of **4.44 (Very Good)**. Overall, these results indicate that the timeliness of IKD services is considered satisfactory by both employees and the public.

From the public perspective, the highest score appears in efficiency of service time with a mean value of **4.44 (Very Good)**, showing that the community perceives the service process as relatively efficient. Overall, these findings suggest that the timeliness of IKD services has been positively perceived by both employees and the public, reflecting a generally effective service delivery process.

4.**The Goal Achievement Dimension**

Goal achievement reflects the extent to which a program successfully accomplishes its intended objectives and provides the expected benefits to its target groups. This dimension can be evaluated through several indicators, including improvements in service efficiency, enhancement of service quality, ease of service access, and public satisfaction. Increased efficiency and improved service quality indicate that the program operates effectively, while ease of access and public satisfaction serve as important measures of how well the program meets the needs of its intended beneficiaries.

Table 1.4 Summary of The Goal Achievement Dimension

Staff				**Public**	
No	Item Statement	Mean	Category	Mean	Category
1.	Improvement in Service Efficiency	4,25	Very Good	4,39	Very Good
2.	Improvement in Service Quality	4,25	Very Good	4,32	Very Good
3.	Ease of Access to Services	4,63	Very Good	4,25	Very Good
4.	Public Satisfaction	3,75	Good	4,41	Very Good
Total Mean		**4,22**	**Very Good**	**4,26**	**Very Good**

Source : Research Finding (2026)

The table above presents the responses of employees and the public regarding the goal achievement dimension of the Digital Population Identity (IKD) program. Overall, the results indicate that the program has achieved its intended objectives effectively. This can be seen from the average score given by employees, which is **4.22**, and by the public, which is **4.26**, both of which fall into the **Very Good** category. These findings suggest that the implementation of the IKD program has contributed positively to improving the performance and quality of public services.

From the employees' perspective, the highest mean score is found in the indicator ease of access to services, with a score of **4.63**, categorized as **Very Good**. This indicates that employees perceive the IKD program as facilitating

easier access to population administration services for the community. In addition, the indicators improvement in service efficiency and improvement in service quality each received a mean score of **4.25**, which is also categorized as **Very Good**. These results suggest that the implementation of the IKD program has helped streamline administrative processes and improve the quality of services provided by the Department of Population and Civil Registration.

However, the indicator public satisfaction received the lowest score from employees, with a mean value of **3.75**, categorized as **Good**. Although this score still reflects a positive evaluation, it indicates that there may still be aspects of the service that require further improvement to fully meet public expectations. From the public perspective, all indicators received scores in the **Very Good** category. The highest mean score is found in the indicator public satisfaction, with a value of **4.41**, indicating that the community generally feels satisfied with the services provided through the IKD program. Meanwhile, the indicators improvement in service efficiency, improvement in service quality, and ease of access to services also obtained high scores, showing that the public perceives the program as effective in enhancing service delivery.

Overall, these findings demonstrate that the goal achievement dimension of the IKD program has been successfully realized. The program not only improves efficiency and service quality but also facilitates easier access to services and increases public satisfaction. Therefore, the implementation of the IKD program can be considered successful in achieving its primary objectives in improving population administration services.

5.The Tangible Change Dimension

Tangible change refers to the concrete impacts generated by the implementation of a program on both the system and the community. This dimension can be assessed through several indicators, including the prevention of identity fraud, improvements in the service system, enhancement of data security, and the overall impact of services. The prevention of identity fraud and strengthened data security help ensure the integrity of the system, while improvements in the service system and the observable impact of services demonstrate the program's effectiveness in delivering direct benefits to the public.

Table 1.5 Summary The Tangible Change Dimension

		Staff		**Public**	
No	Item Statement	Mean	Category	Mean	Category
1.	Prevention of Identity Fraud	4,50	Very Good	4,04	Good
2.	Changes in the Service System	4,00	Good	3,90	Good
3.	Improvement of Data Security	4,75	Very Good	3,81	Good
4.	Tangible Impact on Services	3,13	Good	4,55	Very Good

Total Mean	**4,35**	**Very Good**	**4,08**	**Good**

Source : Research Finding (2026)

The table presents the responses of employees and the public regarding the **tangible change dimension** of the Digital Population Identity (IKD) program. Employees reported an average score of **4.35 (Very Good)**, while the public gave an average score of **4.08 (Good)**. This indicates that the implementation of the IKD program has produced noticeable improvements in population administration services.

From the employees' perspective, the highest score is found in **improvement of data security** with a mean value of **4.75 (Very Good)**, followed by **prevention of identity fraud** with **4.50 (Very Good)**. From the public perspective, the highest score appears in **tangible impact on services** with a mean value of **4.55 (Very Good)**. Overall, these results suggest that the IKD program has generated positive and measurable changes in the service system, data security, and service delivery to the public.

Table 1.6 Summary of Employees and Respondents Responses on the Effectiveness of the IKD Program at the Department of Population and Civil Registration of Bogor City.

Variable	Dimension	Indicator	Staff		Public	
			Mean	Category	Mean	Category
Efektivitas Program Sutrisno (2010)	Program Understanding	Understanding and assessment of employees' and public knowledge of the IKD program	**3,75**	**Good**	**4,46**	**Very Good**
		Understanding of the use of IKD services and program objectives	**4,38**	**Very Good**	**3,95**	**Good**
		Use of services received	**4,75**	**Very Good**	**4,09**	**Very Good**
		Clarity of program information	**3,75**	**Good**	**4,15**	**Good**
	Total Mean		**4,16**	**Good**	**4,16**	**Good**
	Target Accuracy	Reachability of program targets	**3,75**	**Good**	**4,01**	**Good**
		Public access to services	**4,38**	**Very Good**	**4,22**	**Very Good**
		Utilization of IKD services	**3,88**	**Good**	**4,21**	**Very Good**
		Equitable distribution of IKD program benefits	**3,63**	**Good**	**4,32**	**Very Good**
	Total Mean		**3,91**	**Good**	**4,19**	**Very Good**
	Timeliness	Speed of service access	**4,13**	**Good**	**4,25**	**Very Good**

		Suitability of service time	4,25	Very Good	4,28	Very Good
		Punctuality of service implementation schedule	4,13	Good	4,08	Good
		Efficiency of service time	4,13	Good	4,44	Very Good
	Total Mean		**4,16**	**Good**	**4,26**	**Very Good**
	Goal Achievement	Improvement in service efficiency	4,25	Very Good	4,39	Very Good
		Improvement in service quality	4,25	Very Good	4,32	Very Good
		Ease of access to services	4,63	Very Good	4,25	Very Good
		Public satisfaction	3,75	Baik	4,41	Very Good
	Total Mean		**4,22**	**Very Good**	**4,26**	**Very Good**
	Tangible Change	Prevention of identity fraud	4,50	Very Good	4,04	Good
		Changes in the service system	4,00	Good	3,90	Good
		Improvement of data security	4,75	Very Good	3,81	Good
		Tangible impact on services	4,13	Good	4,55	Very Good
	Total Mean		**4,35**	**Very Good**	**3,65**	**Good**
	Overall Mean		**4,16**	**Good**	**4,10**	**Good**

Source : Research Finding (2026)

DISCUSSION

The **program understanding dimension** shows that both employees and the public obtained the same average score of **4.16 (Good)**, indicating that both groups generally have a good understanding of the IKD program. The public rated the **knowledge of the program** aspect very highly (**4.46**), while employees gave the highest score to **service utilization** (**4.75**), suggesting that the program has been well understood and implemented.

In the **target accuracy dimension**, employees reported an average score of **3.91 (Good)**, whereas the public gave a higher score of **4.19 (Very Good)**. This indicates that the public perceives the benefits and accessibility of the IKD program more positively. The **equitable distribution of program benefits** received a very good score from the public (**4.32**), suggesting that the program has reached its intended targets.

For the **timeliness dimension**, employees gave an average score of **4.16 (Good)** and the public **4.26 (Very Good)**. These results indicate that IKD services are generally delivered in a timely and efficient manner. The **efficiency of service time** received the highest score from the public (**4.44**), reflecting the perceived improvement in service speed.

The **goal achievement dimension** received very good ratings from both employees (**4.22**) and the public (**4.26**). This suggests that the IKD program has successfully improved service efficiency and quality while providing easier access to services. Employees rated **ease of access to services** the highest (**4.63**), while the public gave the highest score to **public satisfaction** (**4.41**).

In the **tangible change dimension**, employees reported an average score of **4.35 (Very Good)**, while the public gave **4.08 (Good)**. This indicates that the program has produced significant internal improvements, particularly in **data security enhancement** (**4.75**) and **prevention of identity fraud** (**4.50**). Meanwhile, the public most strongly perceived the **tangible impact on services** with a score of **4.55 (Very Good)**.

Overall, the recapitulation results show that the implementation of the IKD program falls within the **Good to Very Good** category across all dimensions. Therefore, it can be concluded that the IKD program has been implemented effectively, reaching its target groups, operating in a timely manner, achieving its objectives, and producing tangible improvements in population administration services.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

This study concludes that the implementation of the Digital Population Identity (IKD) program in Bogor City can be categorized as generally effective, as indicated by an overall average score of 4.18, which falls within the "Good" category. The program has shown strong performance, particularly in achieving its objectives and generating tangible benefits, such as improved efficiency, accessibility, and quality of public services. However, several challenges remain, especially in terms of public understanding, digital literacy, and technological support, which need to be addressed to achieve optimal effectiveness. The findings also highlight that program effectiveness is multidimensional and should be evaluated using multiple indicators, as well as from both implementer and user perspectives.

Recommendations

Based on the findings, several recommendations can be proposed to improve the effectiveness of the IKD program. First, the government should intensify public outreach and education programs to enhance citizens' understanding and awareness of the IKD system. Second, efforts should be made to improve digital literacy among the community to ensure broader participation in using digital services. Third, the government needs to strengthen technological infrastructure and system integration to support more efficient and reliable service delivery. Finally, continuous evaluation and coordination among stakeholders are necessary to ensure the sustainability and improvement of the program.

LIMITATIONS AND FUTURE RESEARCH

This study has several limitations. It is limited to the context of Bogor City, which may not fully represent the conditions in other regions. In addition, the use of a quantitative approach may not capture deeper insights into user experiences and perceptions. Therefore, future research is recommended to adopt mixed methods approaches and expand the study to different regions in order to obtain a more comprehensive understanding of the effectiveness of digital population identity programs.

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