

FEASIBILITY ANALYSIS OF E-GOVERNMENT SERVICES USING TELOS METHOD

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Abstract: The government continues to adopt various technologies to ensure effective and efficient public services in the new normal era. This study discusses the use of the TELOS method in measuring the feasibility level of e-government services through a review of five main feasibility dimensions, including technical feasibility, economic feasibility, legal feasibility, operational feasibility and schedule feasibility. This study identifies opportunities for developing village information system projects. The data collection process involved 15 users of e-government services. The results of this study indicate that based on the number of feasibility factors generated by the information system, it is 7.20 and is within the feasible threshold for development. The value of the system development risk obtained is quite low. It is necessary to add interactive features so that it can increase community participation in community services in the future.

Keywords: e-Government; feasibility Analysis; TELOS method;

Abstrak: Berbagai adopsi teknologi terus dilakukan pemerintah untuk menjamin pelayanan publik yang efektif dan efisien di era normal baru. studi ini membahas tentang Penggunaan Metode TELOS dalam pengukuran tingkat Kelayakan layanan *e-government* melalui peninjauan lima dimensi kelayakan utama antara lain kelayakan teknis, kelayakan ekonomis, kelayakan hukum, kelayakan operasional dan kelayakan jadwal. Studi ini mengidentifikasi peluang pengembangan proyek sistem informasi desa. Proses Pengumpulan data melibatkan 15 pengguna layanan *e-government*. Hasil penelitian ini menunjukkan bahwa berdasarkan jumlah factor kelayakan yang dihasilkan sistem informasi tersebut sebesar 7,20 dan berada dalam ambang batas layak untuk dikembangkan. Nilai resiko pengembangan sistem yang diperoleh cukup rendah sehingga perlu adanya penambahan fitur-fitur yang bersifat interaktif untuk dapat meningkatkan partisipasi masyarakat terhadap layanan kemasyarakatan dimasa mendatang.

Kata kunci: Analisis Kelayakan; e-Government; Metode TELOS

INTRODUCTION

The impact of the Covid 19 Pandemic has significantly affected changes in individual and societal behavior, especially in the public sector, the government is urged to implement various strategic policies in order to increase awareness of this global pandemic, since it was declared entering Indonesia in March 2020, the government has implemented restrictions social services and encourage the majority of state civil servants to work from home in order to break the chain of the spread of the virus so that it does not develop even more rapidly [1]. The existence of restrictions on public services has initiated the growth of online services as well as public services in the regions. Communities use ICT to continue to carry out activities with ICT facilities and features that have advantages and ease of use[2] Case studies in other countries, Development of e-government service quality chain models, perceived value, and intention to use sustainable to explain the relationship between service quality of government websites and perceived value[3].

Developing an approach using multi-criteria decision-making techniques in evaluating the quality of city services, the map analyzed shows that the level of community satisfaction in the study area of two kelurahans is high, while in the study area of one kelurahan it is relatively low.

Some of the supporting studies that the authors use as references in this study include: [4] In his research, he conducted a feasibility study on the Web Mapping System using the Telos method and used the Telos method based on the results of the evaluation of the five factors it is known that the system is feasible to implement with a total score of 8,4 .

[5] In his research he conducted a feasibility study on the Implementation plan for the Use of Information Technology in the Fisheries and Tourism Sector on Lipaeng Island where the results of the research showed Technical feasibility with

a value of 0.89, Economic feasibility with a value of 0.22, Legal feasibility with a value of 0.60, operational feasibility is 0.75, and schedule feasibility is 0.39, so the TELOS feasibility value is 0.61 and it is not feasible (B) with moderate risk.

[6] In his research, he carried out the Telos Feasibility Test on the Authenticity Detector Application for Batik (Batik E- Label) by considering the evaluation results of the five factors, it was found that

the system was feasible to implement with a total score of 8.7

[7] In his research, he conducted a Feasibility study on Decision Support System for Assessing Project Feasibility Using the TELOS Method and the results of data testing indicate that the system is feasible to continue with a feasibility value of 8.67

[8] Among other things, the results of the TELOS feasibility test found an assessment result of 8.34 or if it was rounded up to 8, which means that the information system project is very feasible to continue to develop.

[2] In his research, he conducted a Feasibility Study for Server Administrator Tools to Improve Server Computer Management Performance Using the SSH Protocol. The results of this study were that there was an administrative system device. administrator with faster and more efficient administrator work results than manual configuration. The device feasibility test has a TELOS value

of 8.95 with this value, then this device is declared feasible

[9] Feasibility Study of Web-Based Academic Information Systems Bhakti Semesta Polytechnic Salatiga Using the Telos Feasibility Method. The results of this study indicate a feasibility factor value of 8.4 with a feasible information system development evaluation design (B) and a relatively low system development risk.

[10] Analysis of the Implementation of Android-Based Accounting Applications SI APIK (Financial Information Recording Applications) to Meet the Needs of Accounting Information Systems in Micro, Small, Medium Enterprises (Case Study at Toko Wanda Teluk Kuantan) TELOS feasibility study as a whole Wanda shop is feasible in implementing the SI APIK android-based accounting application, both in terms of the theory of technical, economic, legal, operational, and schedule feasibility studies. Toko Wanda already has an easy, practical, and efficient accounting recording application. By implementing SI APIK, Toko Wanda can record daily transactions with a computerized system. Without the need to manually recalculate both merchandise inventory, receipts and expenditure reports that occurred on the date of the transaction Technical.

[11] Feasibility Analysis of University Academic Information Systems Using PIECES and TELOS Based on the results of the research that has been carried out, it is found that the criteria for assessing the Technical Feasibility factor, the Academic IS applied already uses existing technology and has been used in general and is known by tertiary management, so that the value for technical feasibility, which ranges from 9.5 to 10. Higher education management indicates that the management supports IS Aca-

demic, but has not been able to provide the required funds, so that the economic feasibility assessment ranges from 5 to 8. In addition it is also necessary to have human resources who are trained as IS administrators and operators to be able to use and operate IS properly, so that the assessment for operational feasibility is given a value of 7. In the assessment of the Legal Feasibility factor, a value of 10 is given. that the existence of users or resources who are well trained and have a strong commitment to running IS Academic.

[12] Designing a Web-Based Cash Sales Accounting Information System at Bariklana Store and from this analysis it can be concluded that a web-based cash sales accounting information system is feasible. This is because the new system meets non-functional requirements standards, operational costs incurred tend to be smaller than the old system, legal from a legal point of view because the new system uses original and paid devices (software and hardware) as well as several freeware add-ons. , simplify the company's operational activities, and this design does not negatively affect the social environment.

In cross-disciplinary studies [13] The use of the TELOS method is very good in providing analytical recommendations related to the feasibility of using containers as a form of shelter or safe temporary shelter for its users. The use of the TELOS method in identifying the feasibility of implementing an Information System Audit so that it can recommend objective decision-making [14]

By considering [15] The use of TELOS analysis in testing the feasibility of SIAKAD services at POLTEKES KEMENKES Riau uses this feasibility factor to analyze the time frame from planning, construction, operation and

demolition. From several comparisons of previous research that the researcher has described, in this study the researcher In this study the use of the TELOS method is intended to provide recommendations to e-government service developers, especially the Lamedai Village Information System in reviewing the level of service feasibility not only in terms of service technical feasibility but also considering the economic feasibility that can influence future system development decisions through both ROI (return on investment) and NPV (Net Present Value) assessments.

METHOD

The use of TELOS eligibility measures the level of e-government service eligibility. Feasibility factors related to the likelihood of failure or success of an organization's IT implementation. Along these lines Considering the importance of effective cell-phone communication to maintain appointment compliance, and filling out questionnaires often requires the assistance of a trained interviewer [16] In this study, the number of respondents who determined the eligibility value of this e-government software were 15 respondents, including village heads, 2 administrative staff, 2 hamlet heads, and 10 community members. This study stage is simply presented in the following table:

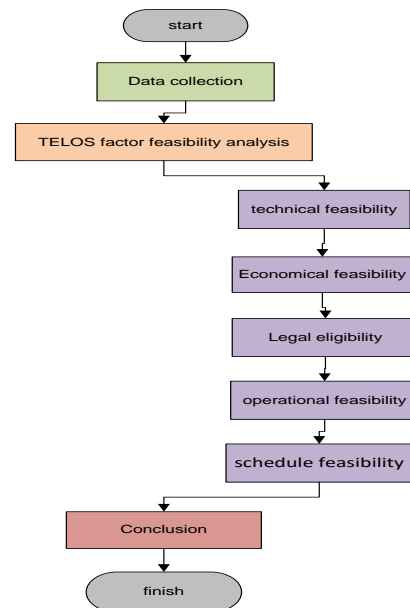


Image 1 TELOS Feasibility Analysis Stages

In the stages of the feasibility analysis above, it can be seen that the analysis process was carried out. The discussion of each feasibility based on the flow that has been described is as follows.

1. Technical Feasibility, in this technical feasibility there are two analyzes that are carried out, namely device requirements and computer network architecture. Device requirements ranging from software, hardware to network devices. as for network architecture such as network design, system applications, databases and infrastructure.
2. Economic feasibility, on economic feasibility there is one component that is analyzed, namely the analysis of costs and benefits or return on investment (ROI). Cost analysis is related to information system development while benefit analysis is to improve management planning and control.
3. Legal feasibility, the legal feasibility analyzed is the software used in software and hardware must have a clear license

4. Operational feasibility, analyzed based on the PIECES framework.

- a. Performance is intended to determine the ability of the system to provide a good response time.
- b. Information is intended to determine the ability of the system to provide quality information for users.
- c. Economy is intended to determine the ability of the system to offer adequate service capacity.
- d. Control is intended to analyze the system's ability to control or overcome fraud and ensure data security.
- e. Efficiency is aimed at knowing the ability of the system to provide resources such as people, time, form flow, and minimize process delays.
- f. Services are intended to analyze how capable the system is in providing reliable services.

5. Schedule feasibility uses the PERT flow-method to find out the dependencies of each job desk, thereby minimizing the implications and time delays of a project.

RESULTS AND DISCUSSION

The use of the TELOS method to test the eligibility level of E-government services (Information system service for Lamedai Village, Kolaka Regency, Southeast Sulawesi) is based on the main reason, namely that this system has just been adopted so that the potential for future system development can be carried

out quickly considering The main objective of the Lamedai village service is to help provide a fast, precise and accurate village service administration data processing service.



Image 2 Layout of Lamedai Village E-government website service

Refer to the findings [17] that this method demonstrates that the feasibility of using an enhanced quality assurance model and also reveals the possibility of improving the existing quality management system related to teaching and learning processes. By highlighting the importance of analysis and feasibility studies, and the main reasons why all employers should carry them out, through the presentation of a simple template showing the key components of a feasibility study as well as a hypothetical case study

Technical feasibility

Technical feasibility level in table 1:

Tabel 1 Technical Feasibility Assessment

No	Factor	Criteria	Weight	Value
	Technical feasibility	E-Government Service Is The First Service Used By Users	3.8	76
		The hardware used is sufficient to support the use of e-government services	3.6	72
		The Software Used Sufficiently Supports The Use Of E-Government Services	3.8	76
		Users Can Operate E-Government Services Properly	3.93	78.6
		Layout of Complex E-Government Service Features??	3.4	68

Based on table 1, it can be calculated from the technical feasibility indicators as follows:

Technical Feasibility Value= $80,85/100 \times 10$

Technical Feasibility Value= $80,85/100 \times 10$
 $= 7.412$

Achievement level of 7.412 with a percentage of 74.12% can be expressed in a feasible category

Economical feasibility

The feasibility level of economic factors from e-government services is presented in table 2:

Table 2 Economic Feasibility Assessment

No	Factor	Criteria	Weight	Value
1	Economic Feasibility	This E-Government service is acceptable when viewed from the ROI value generated	3.4	74,6

From table 2, the calculation of economic feasibility indicators can be continued as follows:

Economic Feasibility Value= $80,85/100 \times 10$

Economic Feasibility Value= $80,85/100 \times 10$
 $= 7,4$

The achievement level of 7.4 with a percentage of 74% can be stated in the proper category

Legal Feasibility

The level of legal feasibility is briefly presented in table 3:

Table 3 Legal Feasibility Assessment

No	Factor	Criteria	Weight	Value
1	Legal Feasibility	the data displayed can be accounted for its authenticity	3.73	74.6
2		the data displayed is legal data?	3.06	61.3
3		The hardware used is legal	3.2	64
4		The software used is legal	2.93	58.6

Based on table 3, it can be calculated from the legal feasibility indicators as follow

Legal Feasibility Value= $80,85/100 \times 10$

Legal Feasibility Value= $80,85/100 \times 10$
 = 6,46

The achievement level of 6.46 with a percentage of 64.6% can be stated in a fairly decent category

Operational Feasibility

The level of operational feasibility is briefly presented in table 4:

Table 4 Operational Feasibility Assessment

No	Factor	Criteria	Weight	Value
1	operational feasibility	This e-government service functions optimally in supporting work	4.4	88
2		E-government services provide timely, interrelated, accurate and useful information to their users	4.33	86.6
3		E-government services offer sufficient service capacity to reduce operational costs	3.53	70.6
4		E-government services offer adequate controls to ensure the accuracy of data and information	4	80
5		E-government services use the available resources (people, time, etc.) to the fullest	4.06	81.3
6		E-government services provide services according to user needs	3.93	78.6

Based on table 4, it can be calculated from the legal feasibility indicators as follows

Operational Feasibility Value= $80,85/100 \times 10$

Operational Feasibility Value= $80,85/100 \times 10$
 = 8,085

The achievement level of 8.085 with a percentage of 80.85% can be expressed in a very decent category

Schedule Feasibility

The schedule feasibility level is briefly presented in table 5:

Table 5 Schedule Feasibility Assessment

No	Factor	Criteria	Weight	Value
1	schedule feasibility	E-government services provide services according to user needs	3.93	78.6
2		How long the schedule will take to develop the system?	3.2	64
3		What is the probability of the developer to complete the specified schedule?	3.46	69.3
4		Has the e-government Service creation timeline changed?	3.06	61.3

Based on table 5, it can be calculated from the schedule feasibility indicators as follows:

Schedule Feasibility Value= (Value Obtained)/100 ×10

Schedule Feasibility Value= $68,30/100 \times 10$
 = 6,83

The achievement level of 6.83 with a percentage of 68.3% can be stated in the very feasible category to be developed. To obtain the TELOS feasibility value, the sum of all existing feasibility factor values is then divided by the total number of feasibility factors which are simply presented below :

$$NKT = \frac{74,12 + 74,6 + 64,625 + 80,85 + 68,30}{5} = 72,5$$

*NKT = TELOS Feasibility Value

Based on the results of the feasibility analysis conducted on e-government services, a feasibility result of 72.5% was obtained with a value of > 5, which means that it is in a feasible category to be developed.

CONCLUSION

It is important to improve legal eligibility indicators, and scheduling especially related to the use of licensed appli-

cations while still prioritizing user security through limiting access rights according to interests. In addition, it is important to categorize such as the total development time in hours, days and weeks so that estimation errors can be prevented so that they become smaller. [18] The importance of considering risk management factors related to the potential for long-term system development.

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