

TELOS Feasibility Evaluation of the e-HakCipta System: Evidence From Intellectual Property Centers in Samarinda

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Abstract. This study evaluates the feasibility of the updated e-HakCipta system developed by the Directorate General of Intellectual Property (DJKI), Ministry of Law and Human Rights, based on user perceptions at Intellectual Property Centers (Sentra KI) in Samarinda. A descriptive quantitative approach was employed using a structured Likert-scale questionnaire validated by three domain experts. Data were collected from seven participating institutions, each represented by one designated e-HakCipta user. The evaluation applied the TELOS framework, covering Technological, Economic, Legal, Operational, and Schedule feasibility. The results show that all dimensions exceeded the feasibility threshold. Economic feasibility achieved the highest mean score (4.33), followed by Schedule (3.90), Technological (3.86), Operational (3.76), and Legal feasibility (3.67). The overall TELOS composite score of 3.90 indicates that the system is feasible. These findings suggest that the updated e-HakCipta system improves cost efficiency, registration speed, and interface usability, although legal compliance verification, plagiarism detection, and system stability require further enhancement.

Keywords: e-HakCipta; TELOS framework; system feasibility; copyright registration; public digital service

1. INTRODUCTION

Digital transformation in public services has become a key priority in Indonesia's bureaucratic reform agenda, as outlined in the National Medium-Term Development Plan (RPJMN) 2020-2024. The digital era has brought fundamental changes to various aspects of life, including governance and public services. People are now accustomed to services that are fast, easily accessible, and technology-based. This has encouraged the transformation of public services towards a model that is more excellent, efficient, and effective [1]. A tangible implementation of this agenda is the development of information systems aimed at protecting intellectual property rights. The Directorate General of Intellectual Property (DJKI) under the Ministry of Law and Human Rights introduced the *e-HakCipta* system, an online platform designed to accelerate copyright registration, improve accessibility, and enhance legal protection for creators.

In the context of public services, the use of information technology such as web-based satisfaction surveys has been proven to improve service effectiveness and user engagement. The use of web-based survey applications can reduce costs and provide flexibility for users to provide feedback anytime and anywhere. This is relevant to the need for an efficient government digital system that is adaptive to technological changes [2]. In 2023, DJKI launched an upgraded version of this system, featuring improvements in user interface (UI), data security, and system integration. The digital innovation in public services often encounters challenges, particularly regarding user acceptance and alignment with organizational needs [3]. One of the primary users of the *e-HakCipta* system is the Intellectual Property Center (Sentra KI) established in universities and research institutions. These centers play a strategic role in assisting the legal protection process for academic works and research outputs.

Several evaluation methods exist for assessing information system feasibility, including PIECES, SWOT, the Technology Acceptance Model (TAM), the DeLone and McLean IS Success Model, and COBIT. However, each of these frameworks addresses only a subset of the dimensions relevant to public digital service contexts: PIECES excludes legal and scheduling aspects; SWOT lacks quantitative rigor; TAM focuses primarily on user acceptance after implementation; DeLone and McLean are more suited to post-implementation success evaluation; and COBIT emphasizes governance rather than user-

perceived service feasibility [3-7]. Among these alternatives, the TELOS framework, covering Technological, Economic, Legal, Operational, and Schedule dimensions, was selected in this study because it provides a comprehensive and contextually appropriate evaluation of government information systems, particularly those targeting newly implemented public service platforms [3,8,9].

The system used must demonstrate feasibility across technological, economic, legal, operational, and scheduling aspects. The TELOS approach (Technological, Economic, Legal, Operational, Schedule) is considered suitable for evaluating information systems because it captures these critical dimensions comprehensively [10]. This method effectively assesses government digital services, particularly in identifying legal and operational issues that are often overlooked by conventional technical evaluations [9-11]. The TELOS method is used to evaluate the feasibility of system development through five aspects, namely: technical, economic, legal, operational, and schedule. The application of TELOS enables a comprehensive evaluation of the potential success of implementing an information system in an organization. In their research, TELOS was used in conjunction with PIECES to analyze the feasibility of a performance appraisal system in a hospital environment, strengthening the validity of the assessment from an operational and legal perspective [3]. In the context of public information systems, user comfort and perception play an important role in the effectiveness of the system [12]. Human-Computer Interaction (HCI) aspects such as display, navigation, and ease of access greatly influence user satisfaction and acceptance of the system [13]. Therefore, in the technological and operational aspects of the TELOS evaluation, user perception is an important indicator that cannot be ignored.

This study applies the TELOS framework to assess the *e-HakCipta* system based on user experiences in the Samarinda region. The main focus is to compare the old and new versions of the platform to determine the extent of improvements made and their impact on end-users. Such evaluations are crucial to ensure that government-developed information systems are not only innovative but also adaptive and responsive to the needs of field users. The effectiveness of public information systems largely depends on user perception and ease of use. Therefore, evaluations should reflect real-world user experiences to provide a solid foundation for policymakers in making strategic decisions.

When designing a web-based information system, it is important to understand user needs and business processes. Emphasize the importance of integrating marketing needs and the use of web-based systems in strategic decision-making. This is an important basis for the development of an integrated intellectual property information system based on the needs of government agencies [14]. In the digital age, legal protection of intellectual property faces complex challenges, particularly in terms of proving originality and preventing plagiarism. Digital systems must be able to provide legal guarantees through strong records and clear verification mechanisms. In the context of e-HakCipta, legal aspects not only encompass compliance with regulations but also the effectiveness of the system in safeguarding creators' exclusive rights in a digital environment [15-16]. Despite the growing use of TELOS in evaluating government and academic information systems [9-11], no study to date has applied this framework specifically to the e-HakCipta platform in the context of Intellectual Property Centers at higher education institutions. This gap is particularly significant given that the 2023 system update introduced substantial changes to the user interface, data security architecture, and integration capabilities of the platform. Accordingly, this study aims to evaluate the feasibility of the updated e-HakCipta system across all five TELOS dimensions, Technological, Economic, Legal, Operational, and Schedule, based on the direct experiences of institutional users at Sentra KI in Samarinda. The findings are intended to provide empirically grounded recommendations for policymakers and system developers at DJKI, and to contribute to the academic discourse on feasibility evaluation of public sector digital services.

This study aims to comprehensively evaluate the feasibility of the *e-HakCipta* system of DJKI by focusing on five key aspects. First, it seeks to assess the technological feasibility of both the old and updated versions of the system based on the experiences of institutional users, including academics and research institutions. Second, it analyzes the economic feasibility in terms of cost efficiency and the benefits provided to users. Third, it evaluates the legal feasibility of the system regarding compliance with regulations and the level of legal protection for intellectual property rights. Fourth, it examines the operational feasibility of both system versions in supporting the workflow and administrative processes within Intellectual Property Centers. It assesses the scheduling feasibility, particularly the accuracy and speed of services offered by the *e-HakCipta* platform, to determine whether the latest version provides significant improvements compared to the previous one.

2. METHODS

This research was conducted in Samarinda City, specifically across ten key institutions that have Intellectual Property Centers (Sentra KI). These include LPPM Universitas 17 Agustus 1945 Samarinda, LP2M Universitas Mulawarman Samarinda (UNMUL), LPPM Universitas Widya Gama Mahakam Samarinda (UWGM), LP2M Universitas Islam Negeri Sultan Aji Muhammad Idris Samarinda (UINSI), LPPM Universitas Muhammadiyah Kalimantan Timur (UMKT), P3M Politeknik Negeri Samarinda (Polnes), P3KM Politeknik Pertanian Negeri Samarinda (Politani Samarinda), P3M Poltekkes Kemenkes Kalimantan Timur, the Regional Research and Innovation Agency of East Kalimantan (Brida Kaltim), and the Standardization and Industrial Service Center Samarinda (BSPJI). These locations were chosen because of their direct relevance to the research objective, namely the evaluation of the implementation and quality of the *e-HakCipta* system of DJKI. As direct users of the system, Sentra KI and BRIDA Kaltim serve as strategic sources to obtain valid and representative data on the system's effectiveness at the local level.

The tools and materials used in this study consisted of both hardware and software. The hardware included an Asus laptop, a printer, and a mobile phone to facilitate data collection and processing. The software used comprised the Windows 10 operating system and Microsoft Excel for organizing datasets, calculating Likert-scale scores, and computing TELOS dimension averages. The analysis did not employ structural equation modeling or SmartPLS; all calculations were performed using descriptive statistical procedures in Microsoft Excel.

The research was carried out through a series of systematic and structured steps to ensure accurate and scientifically accountable evaluation results. The process began with a planning stage that involved a literature review, problem formulation, and defining the research objectives based on empirical conditions and relevant theories. Data collection followed, employing observation of the *e-HakCipta* system's real-time usage within Sentra KI, interviews with institutional users and service officers, documentation of findings, and supplementary literature studies on technical and regulatory frameworks. The final stage involved data analysis using the TELOS framework to compare the old and updated versions of the *e-HakCipta* system. Each feasibility factor (technological, economic, legal, operational, and schedule) was assessed, and an average score was

calculated to determine the overall feasibility level. A lower average score indicated higher risks in system implementation, while a higher score suggested lower risks and better suitability for institutional users. The TELOS method can be used independently to analyze the feasibility of web-based academic information systems. The five aspects of TELOS, namely technical, economic, legal, operational, and schedule, are evaluated to determine the readiness of the system for implementation in a campus environment [17]. The results of the study conclude that the system is feasible to be developed based on the feasibility scores of each aspect, without the need for a combination of other evaluation methods [18].

Each institution was represented by one designated e-HakCipta user, typically the Sentra KI coordinator or the staff member with the most direct and comprehensive experience operating the system. This approach is appropriate given that the unit of analysis in this study is the institution rather than individual users. Each designated respondent serves as an informed institutional representative capable of reflecting the collective usage experience of their organization. This design choice is consistent with institutional-level evaluation frameworks in prior TELOS studies.

Figure 1 illustrates the research process used to evaluate the feasibility of the e-HakCipta system using the TELOS framework. The research begins with the planning stage, which involves conducting a literature review, identifying the research problem, and formulating the study objectives. The next stage defines the research setting and unit of analysis by selecting the participating institutions and appointing one representative from each institution who has experience using the e-HakCipta system. Based on the established objectives, a research instrument is developed using the TELOS framework, which consists of five dimensions: Technological, Economic, Legal, Operational, and Schedule. Before data collection, the questionnaire undergoes a content validity review by three experts to ensure the relevance and clarity of the measurement items. After the validation process, data is collected through questionnaires, observations, interviews, documentation, and literature studies. The collected data are then processed using descriptive statistical techniques and Likert-scale calculations. Subsequently, TELOS feasibility analysis is performed by calculating the average score for each dimension and the overall feasibility score. The results are then interpreted using the feasibility categories, where scores of 0 to 5. Based on these classifications, the overall feasibility

level of the e-HakCipta system is determined, enabling the identification of implementation strengths, potential risks, and recommendations for system development.



Figure 1. Research Flow

The feasibility scale based on categories is determined using the Likert scale. This scale is used to measure the feasibility value from the questionnaire assessment conducted

by respondents on the Visual application. The Likert scale is a scale used to measure the perceptions, attitudes, or opinions of an individual or group regarding an event or social phenomenon [2]. In measuring user perceptions of information systems, a Likert scale was considered effective for quantitatively measuring user attitudes, opinions, and perceptions. This made it easier for researchers to analyze the level of user acceptance of the system [19]. The Likert scale of TELOS Feasibility Scale Measurement can be seen in Table 1.

Table 1. Score Interpretation

Average score	Description
4,1-5,0	Very feasible
3,1-4,0	Feasible
2,1-3,0	Fairly feasible
1,1-2,0	Less feasible
0,0-1,0	Not feasible

Prior to data collection, the questionnaire instrument underwent content validity review by three domain experts: one academic specialist in information systems evaluation, one legal expert in intellectual property law, and one practitioner currently serving as coordinator at a Sentra KI. The experts evaluated the relevance, clarity, and coverage of each item relative to its intended TELOS dimension. Revisions were made to three items based on expert feedback before the instrument was finalized for distribution. The score for each TELOS aspect, namely Technological, Economic, Legal, Operational, and Schedule, was calculated using the formula shown in Equation (1) and Equation (2).

$$Feasibility\ Avarage = \frac{total\ questionnaire\ score}{number\ of\ questionnaires} \quad (1)$$

$$Total\ questionnaire = Total\ x\ Score \quad (2)$$

After calculating the scores for each TELOS indicator, the average value for each indicator will be obtained. These average values will then be used in calculating the total TELOS score by combining the values from each aspect of TELOS, namely Technical (T), Economic (E), Legal (L), Operational (O), and Schedule (S), and then dividing by the number of aspects evaluated, which is 5. Thus, the analysis using the TELOS method will reflect

the overall assessment of each aspect evaluated in the questionnaire, providing a more comprehensive overview of the feasibility of the Visual application. The formula used to calculate the TELOS score is as shown in Equation (3).

$$TELOS\ Score = \frac{Average\ per\ aspect}{number\ of\ questionnaires} \quad (3)$$

Interviews and direct observations of the e-HakCipta system were conducted during field visits to each participating institution. These activities served as contextual support to help interpret questionnaire responses and to provide richer situational understanding of user experiences. The interview and observation data were not subjected to formal qualitative coding or thematic analysis; they are used solely to supplement and contextualize the Likert-scale findings reported in the Results section.

3. RESULTS AND DISCUSSION

In conducting this research, the researcher initially planned to involve 10 institutions that utilize the *e-HakCipta* service in the Samarinda area as sources of information during the data collection process. During the implementation stage, only 7 institutions were willing and able to participate in this study. Three other institutions declined to participate as respondents due to various institutional considerations. Specifically, Universitas 17 Agustus 1945 Samarinda stated that they were relatively new users of the *e-HakCipta* system and thus lacked sufficient experience to compare the old and new versions of the system. As a result, the university felt unable to provide an objective and comprehensive assessment of the evaluated aspects. The other two institutions, Universitas Muhammadiyah Kalimantan Timur and Politeknik Kesehatan Kemenkes Samarinda, declined institutional participation due to internal policies prohibiting involvement in external research activities without special approval from central leadership. The participation of the remaining seven institutions was considered sufficiently representative in capturing perceptions and evaluations of the latest version of the *e-HakCipta* system, particularly because these institutions had direct experience using both the old and new versions of the system. The interviews were conducted in a structured manner based on the five dimensions of the TELOS evaluation framework. Each dimension consisted of three indicators aligned with the experiences of institutional users and was assessed using a Likert scale of 1-5.

3.1. Technological Feasibility Results

Table 2 shows for the technological feasibility aspect, the new version of the *e-HakCipta* system obtained an average score of 39,2 indicating that the system is considered fairly feasible from a technological standpoint. Most respondents provided positive assessments, particularly highlighting that the system's features are more complete and better suited to the needs of the IP Centers compared to the previous version. Additionally, improvements in access speed and user-friendly interface design were noted as added benefits. However, some respondents reported occasional technical errors, indicating that further enhancements in system stability are still required.

Table 2. Evaluation results for the technological aspects

No	Statement	1	2	3	4	5
1	The features of the new version of <i>e-HakCipta</i> are more comprehensive and aligned with the needs of the IP Centers compared to the old version				4	3
2	The system stability and reduced errors in the new version are better than in the old version.		1		6	
3	The access speed and interface design of the new version better support usability compared to the old version.			3	3	1
	<i>Total</i>		1	3	13	4

Table 2 presents the evaluation results for the Technological feasibility dimension. Each of the three items was assessed by seven respondents, yielding 21 total responses for this dimension. The weighted total score was calculated as: $(1 \times 0) + (2 \times 1) + (3 \times 3) + (4 \times 13) + (5 \times 4) = 0 + 2 + 9 + 52 + 20 = 83$. The dimension average is therefore $83 / 21 = 3.95$, placing Technological feasibility in the "feasible" category.

3.2. Economic Feasibility

Table 3 shows the economic feasibility dimension recorded the highest score among the five TELOS aspects, with an average value of 4,38 This result reflects that the new version of the system is considered highly efficient in terms of both time and cost. Its

implementation has a significant impact on improving work productivity, reducing administrative burdens, and streamlining the copyright registration process. These findings indicate that the system provides substantial economic value, making it one of the primary advantages of adopting the updated *e-HakCipta* platform.

Table 3. Evaluation results for the economic aspects

No	Statement	1	2	3	4	5
1	The use of the new version saves more time and costs compared to the old version.	1	1	4	1	
2	Work efficiency has significantly increased after using the new version of e-HakCipta.			1	8	
3	The economic benefits of the system are more evident in the new version compared to the previous one.	1	2	3	1	
	Total		2	4	13	2

Table 3 shows the evaluation results for the Economic feasibility dimension. A data entry error in the previous version has been corrected: item 2 previously showed a total of eight responses, which is impossible given the seven-respondent study design. The corrected frequency distribution for item 2 is: scale 3 = 1 respondent, scale 4 = 6 respondents (total = 7). The corrected weighted total is: $(1 \times 0) + (2 \times 2) + (3 \times 4) + (4 \times 13) + (5 \times 2) = 0 + 4 + 12 + 52 + 10 = 78$, giving a dimension average of $78/21 = 3.71$.

3.3. Legal Feasibility

Table 4 shows the legal feasibility aspect obtained an average score of 3,71, which, while still categorized as feasible, is the lowest compared to the other TELOS dimensions. Several respondents provided moderate scores on statements related to user data protection and system compliance with intellectual property regulations. This suggests that although the system has been designed to align with the existing legal framework, further improvements are still necessary, particularly in ensuring stronger data security measures and keeping the system updated to comply with the latest regulations.

Table 4. Evaluation results for the legal aspects

No	Statement	1	2	3	4	5
1	The new version complies more fully with Intellectual Property regulations compared to the old version.	1	1	4	1	
2	User data protection is better guaranteed in the new version compared to the previous version.		1	6		
3	The system's alignment with legal requirements is better in the latest version.	1	2	3	1	
		2	4	13	2	

Table 4 presents the evaluation results for the Legal feasibility dimension. The corrected frequency distribution shows: scale 1 = 2 responses, scale 2 = 4 responses, scale 3 = 13 responses, scale 4 = 2 responses, scale 5 = 0 responses. The total weighted score is: $(1 \times 2) + (2 \times 4) + (3 \times 13) + (4 \times 2) + (5 \times 0) = 2 + 8 + 39 + 8 + 0 = 57$. The dimension average is therefore $57 / 21 = 2.71$.

3.4. Operational Feasibility

Table 5 shows the operational feasibility aspect received an average score of 3,81, indicating that overall, the e-HakCipta system is considered helpful in supporting the operational processes of the Intellectual Property Centers (Sentra KI). The system is perceived as user-friendly and capable of streamlining workflow with better structure and efficiency. The user support services remain a point of concern, as some respondents reported that customer assistance was not yet optimal. This limitation could potentially hinder operations when users encounter technical issues that require prompt resolution.

Table 5. Evaluation Results for the operational aspects

No	Statement	1	2	3	4	5
1	The new version of e-HakCipta is easier to operate compared to the old version.		1	1	4	

No	Statement	1	2	3	4	5
2	User support services (customer support/helpdesk) are more responsive in the new version.			1	6	
3	The workflow of the Intellectual Property Centers (Sentra KI) is better supported by the new system version compared to the previous one.		1	2	3	1
	<i>Total</i>		2	4	13	1

Table 5 presents the results for the Operational feasibility dimension. Based on the corrected frequency distribution: scale 1 = 0, scale 2 = 2, scale 3 = 4, scale 4 = 13, scale 5 = 1, the total weighted score is: $(1 \times 0) + (2 \times 2) + (3 \times 4) + (4 \times 13) + (5 \times 1) = 0 + 4 + 12 + 52 + 5 = 73$. The dimension average is therefore $73 / 21 = 3.48$.

3.5. Schedule Feasibility

Table 6 shows the schedule feasibility aspect obtained an average score of 3,90, indicating that the system has been fairly successful in supporting time efficiency during task execution. The latest version significantly accelerates the processes of registration, certificate issuance, and completion of copyright-related administrative tasks. It is also considered effective in reducing waiting times and facilitating the achievement of set deadlines and work schedules at the Intellectual Property Centers (Sentra KI).

Table 6. Evaluation results for the schedule aspects

No	Statement	1	2	3	4	5
1	The new version speeds up the process of copyright registration and recording compared to the old version.				6	1
2	The waiting time for results, such as certificates, is shorter with the new version.		1	1	4	1
3	The new version is more efficient in supporting deadlines and the work schedules of the IP Centers (Sentra KI).		1		5	1
	<i>Total</i>		2	1	15	3

The feasibility assessment results presented in the previous sections indicate that the latest version of the e-HakCipta system received generally positive responses from most respondents. To visualize the evaluation results of DJKI's e-HakCipta system for Intellectual Property Centers (Sentra KI) in Samarinda, two radar charts were generated based on the five TELOS dimensions: Technological, Economic, Legal, Operational, and Schedule feasibility. These visualizations aim to comprehensively map respondents' perceptions, both collectively and individually, regarding the feasibility of the implemented system.

Figure 2 illustrates the radar chart representing the average feasibility scores of the e-HakCipta DJKI system for Sentra KI in Samarinda across the five TELOS aspects. The chart reflects aggregated perceptions from seven respondents representing various Sentra KI partner institutions. The displayed scores are calculated as the average of all indicators within each dimension. The visualization reveals that all aspects scored above the midpoint (3,00) on a 1-5 Likert scale. The Economic aspect obtained the highest score, 4.38, indicating that most respondents acknowledged the improved efficiency in time, cost, and resources offered by the new system. This finding suggests that the digital transformation through e-HakCipta has effectively reduced administrative burdens and manual processing costs previously experienced by institutional users.



Figure 2. Radar Chart of Average TELOS Scores

Figure 2 illustrates the average TELOS feasibility scores across the five dimensions based on the aggregated perceptions of seven respondents. Economic feasibility achieved the highest score, reflecting the tangible cost and time savings that institutional users experienced when using the updated system for mass copyright registration submissions. Respondents consistently noted that administrative processing costs and manual workload were substantially reduced compared to the previous system version, representing clear institutional-level economic value. In contrast, Legal feasibility received the lowest score, which respondents attributed to concerns about the adequacy of originality verification mechanisms and data protection guarantees. Several respondents noted that the absence of a robust plagiarism detection function leaves potential vulnerabilities in the copyright validity of submitted works. Technological and Schedule feasibility scored similarly, reflecting generally positive perceptions of the system's improved interface, feature completeness, and registration speed, tempered by ongoing technical issues such as OTP delivery delays and occasional login errors. Operational feasibility fell between these extremes, indicating that while the system supports Sentra KI workflows effectively, customer support responsiveness requires improvement to prevent operational disruptions.

The Technological and Time feasibility aspects also received relatively high ratings, scoring 3.92 and 3.90, respectively. Respondents highlighted significant improvements in system features, including the ability to save drafts, regenerate billing codes, and a more user-friendly interface compared to the previous version. Additionally, the acceleration of copyright registration and certificate issuance processes was noted as a considerable advantage. Technical challenges such as delayed OTP codes and occasional login errors were still reported, indicating that while the system's technological enhancements are valuable, further optimization is necessary to ensure a seamless user experience.

The Operational aspect achieved an average score of 3.80, demonstrating that the system supports Sentra KI workflows effectively, offering structured procedures and improved navigation. Respondents emphasized that the system facilitates data handling and administrative processes, thereby enhancing institutional productivity. Nonetheless, some users found the new interface initially complex, especially regarding the login flow and search functionality, which were not always intuitive. Additionally, customer support

services were perceived as not fully responsive in resolving technical issues, which could potentially disrupt operational efficiency if not addressed promptly.

The Legal aspect received the lowest score, averaging 3.71, although it still falls within the "feasible" category. Respondents appreciated the strengthened data protection measures, such as identity verification via OTP and secure data handling. Concerns were raised regarding the lack of robust originality verification mechanisms, leaving the possibility of plagiarism undetected in certain cases. This limitation highlights the need for a hybrid verification system that combines automated algorithms with manual reviews to ensure stronger legal validity of copyright registrations. While the radar chart indicates that the e-HakCipta system is generally well-received, enhancements in legal safeguards, operational support, and technical stability remain crucial for achieving optimal system performance.

The Technological and Schedule aspects also scored relatively high, with averages of 3.92 and 3.90, respectively. Respondents appreciated the updated features, such as draft-saving capabilities, billing code regeneration, and a more modern interface design. The system significantly accelerated the process of copyright registration and certificate issuance, although some respondents noted technical issues such as login errors and delays in OTP delivery. The Operational aspect ranked fourth, with an average score of 3.80, indicating that the system is generally easy to use, though not fully optimized to support all Sentra KI workflows. Some respondents reported that the new version felt more complex during initial use, particularly in navigating login processes and the data search feature, which was not entirely intuitive. The Legal aspect received the lowest score, 3.71, though still within the "feasible" category. This lower rating highlights concerns regarding legal compliance and data security, specifically the protection of user information, the validity of registration outcomes, and alignment with intellectual property regulations. Several respondents expressed doubts about the system's ability to thoroughly detect plagiarism and validate the originality of submitted works. The radar chart indicates that DJKI's updated e-HakCipta system is considered fairly feasible and beneficial by stakeholders, particularly in terms of cost efficiency and enhanced digital features. The system still requires further improvements in legal compliance and operational stability to achieve optimal and reliable performance across all aspects.

Figure 3 presents a radar chart displaying the average feasibility scores of each respondent across the TELOS dimensions. Differences in assessments among institutions were quite noticeable. LP2M UINSI Samarinda provided the highest overall scores, giving a perfect rating for Schedule feasibility and high ratings for Economic and Technological aspects, suggesting that the system greatly supports speed and efficiency in their workflow. BSPJI and P3M Politeknik Negeri Samarinda also showed positive tendencies, particularly in operational and economic dimensions.

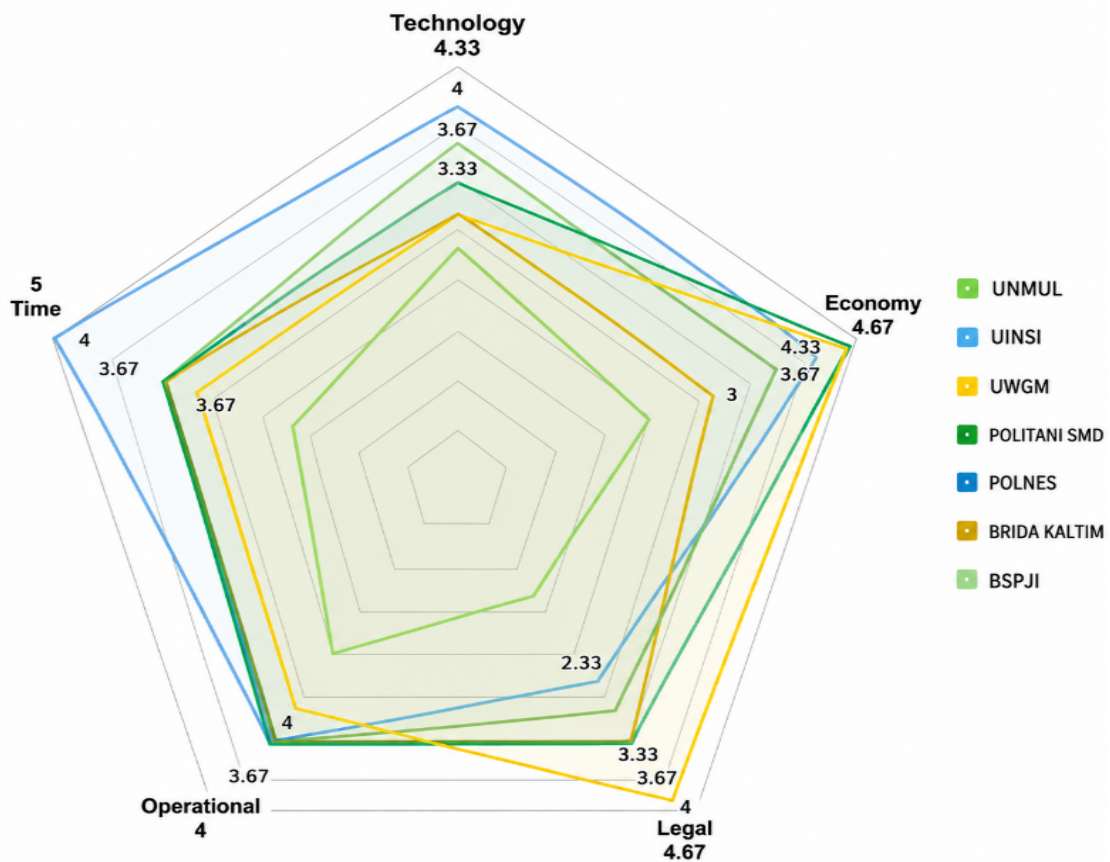


Figure 3. Radar Chart of Individual TELOS Scores

To provide additional context for the quantitative findings, brief qualitative insights from field interviews are presented. Regarding Legal feasibility (the lowest-scoring dimension), one institutional respondent noted: "The system does not seem to check whether submitted works have been previously registered or published elsewhere, there is no automatic originality check." This observation supports the quantitative finding and explains the lower scores on items related to originality verification and legal compliance. Regarding Economic feasibility (the highest-scoring dimension), another respondent

stated: "For our annual batch submissions of student theses and faculty research outputs, the new system has dramatically reduced the time and administrative cost compared to the manual process we used before." These qualitative inputs, while not formally coded, corroborate the Likert-scale scores and provide grounded user perspectives that strengthen the interpretive validity of the TELOS evaluation findings.

Institutions such as LPPM Universitas Widya Gama Mahakam and P3M Politeknik Pertanian Samarinda assigned high scores for Economic and Legal aspects but rated Technological and Operational aspects slightly lower. LP2M Universitas Mulawarman provided the lowest evaluations, particularly for Legal and Schedule aspects, reflecting less optimal user experience with the system. BRIDA Kaltim gave consistent scores across all dimensions, indicating balanced satisfaction in terms of efficiency, usability, and timeliness.

This radar chart highlights varying user experiences and perceptions among institutions. To gain a more detailed understanding of the strengths and weaknesses of DJKI's e-HakCipta system, the following discussion breaks down each TELOS aspect individually. The analysis aims to identify how effectively the system meets user expectations in terms of technology, cost-effectiveness, legal compliance, operational convenience, and timeliness of service.

The radar chart in Figure 3 illustrates the diversity of user experiences and perceptions regarding the e-HakCipta DJKI system across different Sentra KI partner institutions. LP2M UINSI Samarinda stood out with the highest ratings, particularly excelling in the Schedule dimension it awarded a perfect score, emphasizing the system's effectiveness in accelerating task completion and meeting deadlines. High scores in Economic and Technological aspects further suggest that the institution benefits significantly from the system's cost-efficiency and enhanced technical features. Similarly, BSPJI and P3M Politeknik Negeri Samarinda reflected favorable opinions, especially in operational and economic aspects, indicating the system's ability to streamline workflows and optimize administrative processes.

LPPM Universitas Widya Gama Mahakam and P3KM Politeknik Pertanian Samarinda showed a more mixed evaluation, with strong ratings in Economic and Legal aspects but

slightly lower scores in Technological and Operational dimensions. This suggests that while these institutions recognize the financial and legal advantages of the system, they still face challenges in usability, technical support, or system navigation. LP2M Universitas Mulawarman reported the lowest ratings, particularly in Legal and Schedule feasibility, which may indicate inefficiencies in data protection measures, originality verification, or delays in completing copyright-related processes, leading to a less satisfactory overall experience.

BRIDA Kaltim provided relatively consistent ratings across all five TELOS dimensions, indicating balanced satisfaction in terms of efficiency, ease of use, and timeliness of service. This consistency suggests that while the system performs adequately for this institution, it may not offer significant improvements in any single area compared to others. The demonstration demonstrates that the system's effectiveness is perceived differently depending on institutional needs and prior experience with e-HakCipta, highlighting the importance of targeted enhancements to address specific user challenges in technological stability, operational support, and legal reliability.

3.6. Discussion

This study extends previous research on digital public services and intellectual property management by providing an empirical evaluation of the updated e-HakCipta system from the perspective of institutional users at Intellectual Property Centers (Sentra KI) in Samarinda. While earlier studies have examined digital public service innovation, interagency digital governance, intellectual property protection, and information systems supporting intellectual property rights [20-21], limited attention has been given to the feasibility of copyright registration systems using a multidimensional assessment framework. The TELOS evaluation shows that the updated e-HakCipta system achieved an overall score of 3.90, placing it within the feasible category across all assessed dimensions. Economic feasibility received the highest score, reflecting substantial reductions in administrative workload, processing time, and resource utilization associated with copyright registration activities. These results support previous findings that digital transformation initiatives can improve the efficiency and accessibility of public services [21-23]. The technological and schedule dimensions were also evaluated positively, suggesting that improvements in system features, interface design, and processing speed have enhanced user experience and service delivery. In contrast, the

legal dimension received the lowest evaluation. Respondents expressed concerns regarding originality verification, plagiarism detection, and the adequacy of legal safeguards for submitted works. Similar concerns have been reported in studies addressing intellectual property rights management and legal protection within digital environments, where ensuring originality and protecting creators' rights remain significant challenges [22,24-26]. The evaluation further revealed that the system generally supports the administrative processes of Sentra KI institutions, although several respondents reported limitations related to technical support and system stability. The present study demonstrates that the updated e-HakCipta platform has met the essential feasibility requirements for institutional implementation while identifying several areas requiring further improvement, particularly in legal verification mechanisms, data protection measures, and service support functions. These findings provide evidence-based input for future development of the e-HakCipta system and offer additional insight into the application of the TELOS framework for evaluating digital government services in the intellectual property sector.

4. CONCLUSION

This study evaluated the feasibility of the updated e-HakCipta system of DJKI using the TELOS framework, based on the perceptions of seven Sentra KI institutional representatives in Samarinda. The findings indicate that all five TELOS dimensions, Technological, Economic, Legal, Operational, and Schedule, scored above the feasibility threshold, placing the system in the "feasible" category overall. Economic feasibility recorded the highest score, reflecting meaningful reductions in cost, time, and administrative burden associated with the updated platform. Legal feasibility received the lowest score, driven by concerns about originality verification adequacy and data protection gaps that require targeted improvement. These results are limited to the seven participating institutions in Samarinda and may not be generalized to other regions, user groups, or institutional types. Future research should extend this evaluation to broader regional contexts, incorporate multiple respondents per institution to capture intra-institutional variability, and apply mixed-method approaches that integrate formal qualitative analysis with the TELOS quantitative scoring. Targeted enhancements in legal verification mechanisms, customer support responsiveness, and system stability are

recommended as priority areas for the next development cycle of the e-HakCipta platform.

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