International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

# Optimization Strategy for Land Parcel Surveying and Mapping Services at the Land Office of Gorontalo City

**Kurniawan Mattewakkang[1], Arifin Tahir[2], Sri Yulianty Mozin[3]**
[1] Graduate Student, Master of Public Administration Program, Universitas Negeri Gorontalo, Indonesia
[2,3] Lecturers, Master of Public Administration Program, Universitas Negeri Gorontalo, Indonesia

**ABSTRACT:** This study aims to analyze and design an optimization strategy for land parcel surveying and mapping services at the Land Office of Gorontalo City using three key indicators: Goal Indicator, Decision Alternative Indicator, and Resource Constraint Indicator. A qualitative approach with a descriptive-analytical design was employed. Data were collected through in-depth interviews with relevant stakeholders, field observations, and reviews of policy documents and service implementation reports. Data analysis followed the interactive model of Miles and Huberman, including data reduction, data display, and conclusion drawing. A SWOT analysis was also applied. The research findings show that (1) Strategic goals are achieved through the implementation of the 2021 Technical Guidelines, which emphasize risk mitigation, daily monitoring and weekly evaluations, and outreach through both in-person and online channels such as social media and public service applications; (2) Decision alternatives have been implemented, including technology-based service innovations (e.g., the Statif application), the use of modern surveying tools such as GNSS, geospatial information systems, and human resource competency training via PPSDM ATR/BPN; (3) Resource constraints include the limited number of competent personnel, inadequate infrastructure and survey equipment, low public understanding of service procedures, and minimal budget allocation; (4) The optimization strategy is positioned in the SO (aggressive) quadrant, leveraging internal strengths and external opportunities to the fullest. Digital innovation, cross-sector collaboration, and routine evaluation systems are the core components of this strategy. However, due to the balance between strengths and weaknesses, a turnaround approach is also necessary to gradually and sustainably address internal barriers.

**KEYWORDS:** optimization strategy, public service, land surveying and mapping.

## INTRODUCTION

Public administration plays a vital role in realizing good governance that is accountable and responsive to the needs of society. In the context of land services, the role of public administration becomes increasingly crucial, as it involves issues of legality, legal certainty, and justice in asset ownership. One strategic form of public service is the surveying and mapping of land parcels carried out by government agencies, such as the Land Office of Gorontalo City, which functions as the central institution in managing land data with far-reaching impacts on community welfare.

However, various structural and procedural challenges still hinder the achievement of optimal service quality. Optimizing public services in the land sector is a strategic issue in supporting sustainable development, especially in ensuring legal certainty over land ownership rights. In the context of the Land Office of Gorontalo City, the challenges in surveying and mapping services require the adoption of innovative approaches and operational efficiency based on technology. These optimization efforts align with the direction of bureaucratic reform and the improvement of accountable and transparent public governance.

Several previous studies have contributed significantly to the understanding and development of land service strategies. Mustofa et al. [1] emphasized the importance of a participatory land information system based on information technology to support transparency, data accuracy, and stakeholder engagement. This approach is considered foundational in building an integrated service system capable of meeting the needs for real-time verification and updates of land data.

Digital transformation in land services is also part of bureaucratic modernization. Adinegoro [2] demonstrated that implementing information technology, such as electronic land collateral systems, can accelerate administrative processes, reduce operational costs, and increase user satisfaction. This initiative aligns with the need to simplify surveying and mapping processes in an increasingly complex digital era.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

On a technical level, comparisons between Real Time Kinematic (RTK) surveying methods and polar methods using Electronic Total Stations (ETS) show significant differences in measurement accuracy. Endang et al. [3] asserted that precision in measurement is a vital element in ensuring the validity of land parcel boundaries, while also strengthening public trust in land service outcomes.

The use of computer-based spatial data has also enhanced the dimension of innovation in services. Amrin and Sopyan [4] reported that the use of the *Petakita* application and spatial data systems can improve the accuracy of geospatial information, which is essential for spatial planning policy formulation and increasing the operational efficiency of land offices. In the same context, Suprojo et al. [5] added that the use of Geographic Information Systems (GIS) in thematic mapping and spatial planning not only enhances service efficiency but also improves the harmonization between field data and participatory-based spatial planning.

Surveying methods continue to evolve. Saputra et al. [6] introduced a watershed transformation approach for efficient land area estimation using satellite imagery. This method demonstrates significant potential in accelerating the mapping process and reducing operational costs. Meanwhile, the use of Unmanned Aerial Vehicles (UAVs) in generating orthomosaic land parcel images has proven effective in accelerating data collection and enhancing mapping precision [7;8].

From an institutional standpoint, the implementation of the Complete Systematic Land Registration (PTSL) program has been widely studied as a strategic move. Amrin [9] showed that collaboration between government entities and field actors in this program can accelerate systematic and in-depth validation of land data. Finally, Fariz et al. [10] noted that the use of small-format aerial photography for parcel mapping supports service acceleration with high accuracy, while also enhancing the capacity to produce reliable land maps for regional development planning.

These various findings suggest that optimizing land parcel surveying and mapping services requires an integration of technological innovation, participatory approaches, and responsive policies. A comprehensive understanding of these strategies is expected to enable land offices to deliver more efficient, accurate, and inclusive services.

Although many studies have discussed the technical aspects of land services, few have comprehensively integrated the technical, policy, and resource aspects into a single strategic framework. Therefore, this study adopts the public policy theory framework proposed by Sirigoringo in Rizaldy et al. [11], which emphasizes three main indicators in strategy formulation: Goal Indicator, Decision Alternative Indicator, and Resource Constraint Indicator. This approach offers a systematic analysis of the effectiveness and efficiency of service strategies through evaluation of policy objectives, selection of the best policy alternatives, and mapping of existing resource constraints.

This study focuses specifically on the Land Office of Gorontalo City as a case study, given the institution's critical role in local public services and the limited academic studies in this area. By integrating public policy theory and technological service innovation, this research aims to provide policy recommendations that are applicable, measurable, and capable of addressing community needs more equitably and efficiently.

This study offers not only practical contributions in a local context but also enriches the academic discourse in public administration and bureaucratic reform studies, particularly in the land sector. The results of this research are expected to serve as a strategic reference for similar institutions in other regions and as part of a national solution to complex and dynamic public service challenges.

## LITERATURE REVIEW

### *A. Public Administration*

Public administration is a discipline that integrates political theory, law, economics, and management to ensure efficient and accountable governance [12;13]. Anggraeni [14] explains that the concept of public administration reflects the operational structure of the modern state, while Rahardian [15] emphasizes the importance of collaborative governance as a contemporary approach.

The strengthening of digital technology is also part of the evolution of public administration. Yakovlev & Kamynina [16] highlight entrepreneurial and technological approaches in bureaucracy, aligned with Andraško [17], who elaborates on electronic service models. In the context of developing countries, Publik & Ekowanti [18] stress the need for applicable methodologies that are relevant to local conditions. Popescu & Mândru [19] even add that the modernization of administration requires a redefinition of bureaucratic functions to be more flexible and efficient.

Meanwhile, Ruban [20] and Vinzant & Roback [21] discuss the dimensions of legitimacy and authority as normative foundations in the role of administrators. Thus, public administration is no longer merely procedural but also reflects values, innovation, and institutional capacity in responding to social changes.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

***B. Public Service***

Public service is defined as the process of fulfilling the fundamental rights of citizens by the state through an efficient bureaucratic system [22;23]. This definition emphasizes the interrelated legal, social, and administrative dimensions. According to Benius [24], legal frameworks such as Law No. 25 of 2009 serve as the primary reference in the formulation of public service policies.

The dimensions of professionalism and human resource competence are highlighted by Supriatin & Suhendra [25], who regard ethics and expertise as the pillars of responsive service delivery. Ramadhan [26] and Utari & Priyanti [27] add that digitalization through e-government strengthens accountability and transparency, while increasing public participation.

Studies by Faisal & Sahar [28] and Muazir et al. [29] indicate that public services must be flexible, adaptive to the dynamics of societal needs, and based on continuous evaluation to maintain legitimacy and satisfaction. Public service is not merely an administrative instrument but an integral component of modern governance.

***C. Land Parcel Measurement and Mapping Services***

Optimizing land parcel measurement and mapping services involves adopting advanced technologies and participatory approaches. UAVs and GIS have proven to accelerate and simplify mapping processes, while also improving data accuracy [7;5]. Research by Putri et al. [30] shows that digital mapping using OBIA and on-screen digitization enhances the reliability of geospatial data.

Community participation is also essential. Mustofa et al. [1] and Wulansari et al. [31] emphasize that cross-actor collaboration, including academics, can accelerate land verification and identification. Moreover, the gotong royong approach and e-learning training [32] enhance public understanding of land ownership rights.

From the institutional system perspective, tariff transparency and simplification of administrative procedures support service reform [33]. Meanwhile, comparisons of measurement techniques such as RTK and ETS [3] enrich technical considerations in formulating service strategies based on accuracy and efficiency. Ratrianto et al. [34] stress the importance of surveyor competence in ensuring the integrity of land data.

## METHOD

This research was conducted at the Land Office of Gorontalo City over a period of four months using a descriptive qualitative approach to examine strategies for optimizing land parcel measurement and mapping services. Primary data were collected through structured interviews with 17 informants, direct observations, and document studies, while secondary data were obtained from policy documents and relevant literature.

The data analysis technique employed was based on the Miles & Huberman model, which enhances the validity and reliability of research findings through a systematic process consisting of data reduction, data display, and conclusion drawing. The data analysis stages began with data reduction, in which data were refined through filtering to retain only the core information; then the data were presented in a structured and analyzable form; finally, conclusions were drawn based on the presented data.

A SWOT analysis was conducted to formulate strategies based on the institution's internal and external factors. SWOT analysis helps educational institutions understand their internal and external conditions systematically and develop strategies relevant to actual field conditions by considering both internal and external aspects of the service unit. Data validity was maintained through source, technique, and time triangulation to ensure the credibility and accuracy of the research findings.

## RESEARCH FINDINGS

***A. Research Data Description***

This research was conducted at the Land Office of Gorontalo City, focusing on strategies to optimize land parcel measurement and mapping services. In-depth interviews were carried out with informants to examine three public policy indicators as stated by Siringoringo in Rizaldy et al. [11]: goal indicators, decision alternative indicators, and resource constraint indicators.

***Goal Indicator***

The goal indicator in the optimization strategy of land parcel measurement and mapping services at the Land Office of Gorontalo City evaluates the clarity of strategic direction and operational targets. These indicators are examined based on: Clarity of service vision and mission; Specification of operational targets; Consistency of technical policies; Alignment of objectives with public needs; Regulatory and SOP support.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

The optimization strategy has been directed through the formulation of a vision and mission emphasizing legal certainty and public satisfaction in a professional and accountable manner. Strategic objectives have been elaborated through planning documents such as DIPA and employee performance contracts (SKP), supported by SOPs and technical guidelines used as operational references. Digital systems such as STATIF and MONALISA reflect concrete efforts to provide fast, accurate, and transparent services. However, the effectiveness of these objectives still encounters technical and non-technical obstacles, including limited human resources, weather constraints, incomplete documents, and suboptimal communication.

***Decision Alternatives Indicator***

The decision alternatives indicator assesses the availability of strategic policy options that can enhance service efficiency and effectiveness. The aspects considered are: Variety of available policy options; Rationality and policy analysis methodology; Digital service innovation; Flexibility in decision-making; Stakeholder participation and collaboration patterns.

In this aspect, the chosen strategies at the Gorontalo Land Office show innovation based on data and participatory approaches, especially through STATIF via WhatsApp, addressing public limitations in accessing formal applications. Other digital innovations such as SKALA and *Sentuh Tanahku* have been implemented to expand service channels, although their effectiveness remains limited due to lack of outreach. These alternatives have yet to fully integrate cross-unit and external partner involvement from the early stages, limiting their overall effectiveness. Nevertheless, organizational responsiveness to field dynamics is relatively flexible, exemplified by online coordination and procedural adaptations in special situations.

***Resource Constraints Indicator***

The resource constraint indicator examines internal barriers that slow down service optimization efforts. It covers: Quantity and competency of human resources; Availability and quality of measurement tools; Support from information systems and digital infrastructure; Budget allocation and flexibility; Support for training and competency development.

Internal resource limitations are the primary factor constraining the effectiveness of the strategy. The number of personnel is insufficient relative to the workload, with weak disciplinary evaluation systems and limited measuring equipment, leading to service delays. Although tools such as GNSS and Total Station meet national standards, their usage is suboptimal due to limited availability. Information systems such as STATIF are considered effective but hindered by technical issues, internet access, and low digital literacy. Operational budgets are available, but technical training and equipment maintenance remain dependent on central approval. Efforts to improve staff competence are mostly driven by personal initiative and not yet supported by strong external partnerships.

***B. SWOT Analysis***

The strategy for optimizing land parcel measurement and mapping services at the Gorontalo City Land Office refers to systematic and planned efforts to enhance the quality, speed, accuracy, and user satisfaction of services. This optimization is crucial in supporting national strategic programs such as the Complete Systematic Land Registration (PTSL), expediting land certification, and reinforcing legal certainty of land ownership for the public.To formulate a comprehensive strategy, SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) is used as the primary analytical tool. The following is the SWOT analysis based on the findings from interviews with key informants.

***Strengths***

Strengths refer to internal advantages of the Gorontalo City Land Office that can be leveraged to improve and accelerate service quality in land measurement and mapping.

***Weaknesses***

Weaknesses are internal factors that may hinder or slow down the achievement of optimization goals. These weaknesses must be properly identified to be addressed through appropriate strategies.

***Opportunities***

Opportunities refer to external factors that can be utilized by the Land Office to reinforce and accelerate the measurement and mapping service processes.

***Threats***

Threats are external factors that could potentially obstruct or deteriorate the optimization efforts. These threats are often beyond the direct control of the office but must be anticipated to prevent disruptions in service effectiveness.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

**Table 1. SWOT Analysis of Optimization in Land Measurement and Mapping Services**

| **Strengths** | **Weaknesses** |
|---|---|
| 1. Commitment to professional and trustworthy service (KK, Apr 21) | 1. Number of personnel and measuring tools is disproportionate to workload volume (SPA, Apr 22; RZ, Apr 23) |
| 2. Implementation of digital service systems (MONALISA, STATIF, SKALA) is underway (AFO, Apr 23) | 2. Post-fieldwork processes are often delayed due to low discipline (SPA, Apr 22) |
| 3. Clear SOPs and technical guidelines from the central office; weekly evaluations are conducted (AFO, Apr 23) | 3. Public outreach on digital service applications is still very limited (NML, Apr 23; KK, Apr 21) |
| 4. Internal coordination within BPN is fairly effective, especially in the PTSL program (KK, Apr 21) | 4. Budget dependency on central approval hampers operational flexibility (KK, Apr 21) |
| **Opportunities** | **Threats** |
| 1. High public demand for land certification (SPA, Apr 22; N, Apr 24) | 1. SOPs and regulations are overly bureaucratic and not always adaptive (ZH, Apr 25; WP, Apr 28) |
| 2. Potential for further development of digital systems to increase efficiency (STATIF, SKALA) (AFO, Apr 23) | 2. Information gaps and lack of involvement from village-level partners (AJ, Apr 25) |
| 3. Support from local government, village administration, and community partners is open (SH, Apr 24) | 3. Public digital literacy remains low (HM, Apr 29) |
| 4. Opportunities for HR capacity-building through online training and support from the Regional Office/Central Office (KK, Apr 21) | 4. Weather and geographical conditions present operational challenges (N, Apr 24) |

Based on Table 1 above, the following Table 2 presents the Internal Factor Evaluation.

**Table 2. Internal Factor Evaluation**

| **Internal Strategic Factors** | **Weight** | **Rating** | **Score** |
|---|---|---|---|
| **STRENGTHS:** | | | |
| 1. Commitment to professional and trustworthy service | 0.25 | 4 | 1.00 |
| 2. Digitalization of service systems (MONALISA, STATIF, SKALA) | 0.25 | 4 | 1.00 |
| 3. Clear SOPs and technical guidelines, with weekly evaluations | 0.25 | 3 | 0.75 |
| 4. Effective internal coordination in the PTSL program | 0.25 | 3 | 0.75 |
| **Total Strengths** | **1.00** | **-** | **3.50** |
| **WEAKNESSES:** | | | |
| 1. Number of personnel and measuring tools is not proportional to workload | 0.25 | 2 | 0.50 |
| 2. Post-fieldwork processes are often delayed due to low discipline | 0.25 | 2 | 0.50 |
| 3. Limited outreach of digital service applications | 0.25 | 2 | 0.50 |
| 4. Budget dependence on central approval | 0.25 | 3 | 0.75 |
| **Total Weaknesses** | **1.00** | **-** | **2.25** |
| OVERALL TOTAL SCORE | 2.00 | - | 5.75 |

The analysis of results based on Table 2: Internal Factor Evaluation shows that the score of 3.50 for strengths indicates that positive internal factors strongly support the optimization of land measurement and mapping services. The 2.25 score for weaknesses reveals that several internal weaknesses still have a significant impact, particularly those related to human resource limitations, measuring equipment, and digital outreach. The overall total score of 5.75 out of a maximum of 8.00 indicates that the internal environment is relatively strong, although there remains room for improvement in resource management and operational discipline.

The following Table 3 presents the External Factor Evaluation, developed based on Table 1.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

**Table 3. External Factor Evaluation**

| External Strategic Factors | Weight | Rating | Score |
|---|---|---|---|
| **OPPORTUNITIES:** | | | |
| 1. High public demand for land certification | 0.25 | 4 | 1.00 |
| 2. Potential development of digital service systems (STATIF, SKALA) | 0.25 | 4 | 1.00 |
| 3. Open support from local government and community partners | 0.25 | 3 | 0.75 |
| 4. Opportunities for HR training from central office and online platforms | 0.25 | 3 | 0.75 |
| **Total Opportunities** | **1.00** | **-** | **3.50** |
| **THREATS:** | | | |
| 1. SOPs and regulations are overly bureaucratic | 0.25 | 2 | 0.50 |
| 2. Information gaps and lack of involvement from village-level partners | 0.25 | 2 | 0.50 |
| 3. Public digital literacy remains low | 0.25 | 2 | 0.50 |
| 4. Weather and geographical conditions hinder operations | 0.25 | 3 | 0.75 |
| **Total Threats** | **1.00** | **-** | **2.25** |
| OVERALL TOTAL SCORE | 2.00 | - | 5.75 |

The analysis of results based on Table 3: External Factor Evaluation shows that the score of 3.50 indicates that the organization has very strong external opportunities, which can be optimally leveraged to enhance the performance of land measurement and mapping services. The score of 2.25 suggests that the level of external threats is moderate, meaning there is potential for disruption to organizational performance if not properly managed.

The total score of 5.75 reflects a highly favorable external environment, as the available opportunities are considered significant (a score of 3.50 out of a maximum of 4.00), while the threat level remains relatively moderate (a score of 2.25 out of a maximum of 4.00).

The following is a representative image of the Cartesian Diagram, illustrating the strategic position of the Gorontalo City Land Office based on the SWOT analysis.

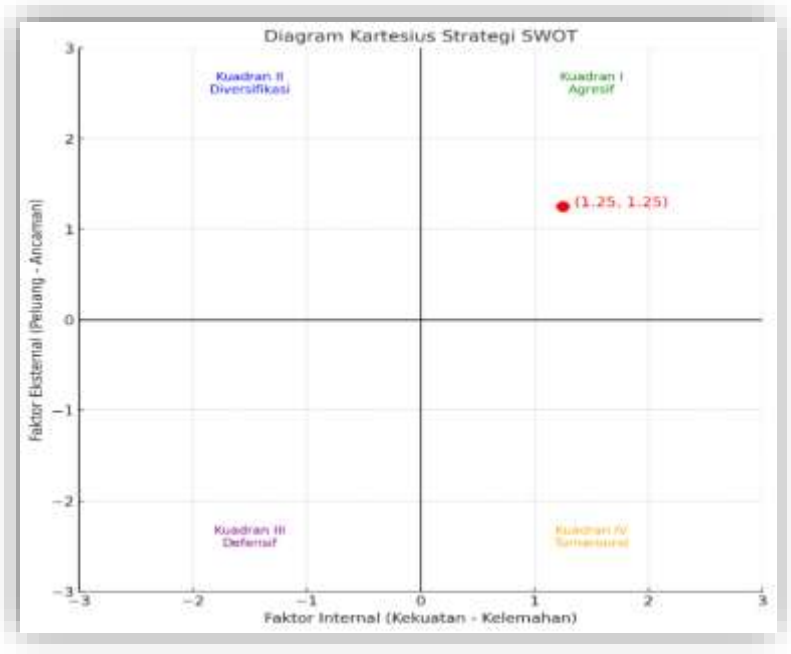


**Figure 1. Cartesian Diagram of the Gorontalo City Land Office**

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

Based on Figure 1, the Cartesian Diagram presents the SWOT strategy derived from the internal and external factor evaluations:

- X-axis (Horizontal) represents the difference between the strength and weakness scores (3.50 - 2.25 = 1.25).
- Y-axis (Vertical) represents the difference between the opportunity and threat scores (3.50 - 2.25 = 1.25).

The strategic position point with coordinates (1.25, 1.25) falls in Quadrant I (Aggressive). This indicates that the organization is in a strong internal position and faces significant external opportunities.
The following are Alternative Strategies Based on Quadrants, presented in Table 4 below.

**Table 4. Alternative Strategies Based on Quadrants**

| Quadrant | Strategy | Operational Actions |
|---|---|---|
| I (SO) (Strength–Opportunity) | Use internal strengths to capitalize on external opportunities *(Aggressive Strategy)* | - Establish a professional and credible service promotion team to build public trust.<br>- Conduct public campaigns to encourage participation in land certification services. |
| | | - Provide mass digital land registration services via MONALISA, STATIF, and SKALA.<br>- Fully digitize services through integrated digital platforms. |
| | | - Collaborate with local governments and village administrations to support land certification programs.<br>- Launch a "Mobile Digital Certification" program in cooperation with village and sub-district governments. |
| | | - Schedule regular online technical training for staff through Regional or Central Office e-learning platforms. |
| II (ST) (Strength–Threat) | Use internal strengths to minimize external threats *(Diversification Strategy)* | - Develop community digital literacy through apps and social media.<br>- Create user guides for the public (e.g., booklets, tutorial videos, live demonstrations). |
| | | - Simplify internal SOPs to reduce dependency on centralized bureaucracy.<br>- Revise internal technical workflows to be more adaptive and responsive. |
| | | - Deploy backup field teams and flexible schedules to mitigate weather/geographic constraints.<br>- Implement dynamic field planning based on local weather forecasts and terrain difficulty. |
| III (WO) (Weakness–Opportunity) | Use external opportunities to address internal weaknesses *(Turnaround Strategy)* | - Integrate online training with modules on field discipline and ethics.<br>- Organize capacity-building programs to improve staff competence. |
| | | - Promote digital land service applications via social media, schools, and village offices.<br>- Collaborate with local media and stakeholders to amplify outreach. |
| | | - Develop cross-sector budgeting systems with local government and community partners.<br>- Draft MoUs for co-financing and field logistics support outside the central budget. |
| IV (WT) (Weakness–Threat) | Minimize weaknesses and avoid external threats *(Defensive Strategy)* | - Prepare contingency SOPs for post-field operations in weather-prone areas.<br>- Adjust schedules and prioritize use of measuring tools in high-risk zones. |
| | | - Develop a digital literacy roadmap for staff and community members.<br>- Launch collaborative digital education programs with the Ministry of Communication and Education Offices. |
| | | - Promote performance-based budgeting and digital reporting systems to speed up fund disbursement.<br>- Reallocate resources toward high-priority tasks and eliminate non-essential activities. |

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

Based on the mapping of alternative strategies from the SWOT and TOWS analysis reflected in the four quadrants (SO, ST, WO, WT), the general conclusions are as follows. First, the organization is in a favorable strategic position (Quadrant I), with significant internal strengths and substantial external opportunities. This creates room to implement aggressive strategies such as digital service expansion and cross-sector collaboration. Second, service digitalization and human resource capacity building are key elements in nearly all strategy quadrants. This indicates that technological transformation and institutional reform are urgent needs to support fast, accurate, and participatory land measurement and mapping services. Third, collaborative strategies with local governments, sub-districts, and community partners are essential to address field operational challenges, especially in terms of financing, outreach, and provision of technical resources. Fourth, revision and simplification of internal SOPs are the focus in both the diversification (ST) and defensive (WT) strategies. Adaptive and flexible SOPs can enhance service effectiveness without conflicting with central regulations. Fifth, the turnaround strategy (WO) emphasizes the importance of online training, work ethics, and digital outreach to address structural weaknesses such as limited HR and operational discipline. Sixth, the defensive strategy (WT) reflects the organization's readiness to face risks such as weather, geographical constraints, and the community's low digital literacy. Output-based efficiency and contingency systems are vital in this context.

## DISCUSSION

This section aims to interpret the research findings in the context of theoretical frameworks and previous studies, while offering strategic insights for the Land Office of Gorontalo City.

### *A. Strategic Objectives of Service Optimization*

The strategy of the Gorontalo City Land Office is focused on speed, accuracy, and service accessibility. This vision is reflected in planning documents such as DIPA, SKP, and digital systems like STATIF and MONALISA. This aligns with Siringoringo's optimization theory [11], which emphasizes the importance of concrete and measurable goals. However, HR limitations, extreme weather, and low digital literacy remain major obstacles.

The implementation of digital systems has improved monitoring efficiency, though not yet optimally, due to a lack of technical training. Inadequate regulation outreach and procedural communication have also hindered public understanding, as noted in the study by Utomo et al. [35]. Participatory mapping and coordination forums are recommended as potential solutions.

Tahir [36] stresses the importance of concrete, measurable objectives in public services, reinforcing the Land Office's focus on speed, accuracy, and accessibility.

Hatu [37] highlights the importance of participatory, community-based development approaches and criticizes top-down models that often ignore local needs and aspirations. This resonates with the Land Office's adoption of digital systems like STATIF and MONALISA. However, Hatu warns that without active public participation and adequate understanding, technology alone is not enough to achieve optimal service delivery.

Mozin and Isa [38] also stress that public service optimization requires clear, measurable objectives and active involvement from all stakeholders, including village communities. While the Land Office's vision is aligned with this through documents and systems, key limitations in HR, weather, and digital literacy still need to be addressed through intensive training and outreach.

### *B. Applied Alternative Strategies*

Alternative strategies such as the WhatsApp-based STATIF represent low-cost, user-friendly innovations that address the technological access gap. This demonstrates the effectiveness of adaptive, locally based strategies in line with Murong's findings [39]. However, systems such as SKALA and *Sentuh Tanahku* are underutilized due to limited outreach and stakeholder engagement from the early stages.

Engagement with sub-districts and local institutions remains supplementary rather than strategic. This contradicts the participatory approach shown to be effective by Utomo et al. [35] and Poccard-Chapuis et al. [40]. Future strategies should thus be more collaborative and community-based.

Tahir [36] discusses public service innovation, including the use of information technology to improve efficiency and effectiveness, consistent with the implementation of systems like STATIF and MONALISA at the Land Office.

Hatu [37] emphasizes empowering communities in the development process and suggests that alternative strategies should involve the public from planning through implementation. In this context, using platforms like WhatsApp (e.g., STATIF) is a positive step, but effectiveness requires active collaboration with sub-districts and local institutions as strategic partners, not mere supporters.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

Mozin and Isa [38] also emphasize the importance of accessible tech-based innovations like WhatsApp for public services. While the WhatsApp-based STATIF system in Gorontalo is a strong, user-friendly response to access gaps, platforms like SKALA and *Sentuh Tanahku* remain underused due to weak socialization and early stakeholder involvement.

### *C. Resources as Limiting Factors*

A limited number of staff, measuring tools, and technical infrastructure are the main bottlenecks. Although tools like GNSS meet national standards, their quantity and rotation systems are insufficient. Disciplinary evaluation and technical training are also minimal, often relying on individual initiative rather than structured institutional systems.

Murong [39] and Poccard-Chapuis et al. [40] emphasize that digital transformation only succeeds with consistent HR training and flexible policy support. Weaknesses in resource management reduce the effectiveness of digital strategies and inclusive public services.

Tahir [36] highlights that HR and infrastructure development are critical success factors in public service delivery. This is relevant to the Land Office's challenges regarding HR and technical infrastructure.

Hatu [37] identifies HR and infrastructure limitations as major development barriers. He calls for continuous technical training and institutional systems that support capacity building. Even though GNSS tools meet national technical standards, the quantity and scheduling are insufficient.

Mozin and Isa [38] stress that HR and infrastructure limitations can significantly hinder public service optimization. Despite having standard tools like GNSS, their number and rotation remain inadequate, with training and discipline relying too heavily on personal initiative rather than systematic institutional support.

### *D. Optimization Strategies Through SWOT–TOWS*

Strategic analysis using the SWOT–TOWS approach shows that the Land Office falls within Quadrant I (SO), ideal for aggressive strategies involving technology and cross-sector partnerships. Digital transformation tools such as STATIF, UAVs, and GPS rapid static [39] are seen as key strengths for accelerating services.

Collaborative strategies are also prioritized to address geographic risks and enhance data validity through community participation [35; 40].

SOP revision and contingency planning are crucial for field flexibility. The WO and WT strategies emphasize online training and operational efficiency, while ST strategies focus on synergy with local stakeholders. Integrating all quadrants is necessary to ensure land services become more responsive, inclusive, and evidence-based.

Tahir [36] underlines the importance of strategic analysis in public service planning. The SWOT–TOWS approach aligns with these principles by identifying strengths, weaknesses, opportunities, and threats to formulate effective strategies.

Hatu [37] advocates for adaptive, contextual development through SWOT–TOWS, stressing the integration of technology with local wisdom and community participation. In the Land Office context, tools like STATIF, UAV, and GPS rapid static are core strengths, but collaborative strategies must be prioritized to tackle geographic risks and enhance data accuracy.

Mozin and Isa [38] recommend collaborative and participatory approaches in public service strategy formulation. The SWOT–TOWS analysis places the Land Office in Quadrant I (SO), ideal for tech-based, cross-sector aggressive strategies. Tools such as STATIF, UAV, and GPS rapid static are key to service acceleration, and collaboration is essential to navigate geographic challenges and ensure data validity through community involvement.

## CONCLUSION

1. Regarding the goal indicator of the service optimization strategy for land measurement and mapping at the Gorontalo City Land Office, the strategy has been guided by the formulation of a vision and mission emphasizing legal certainty and public satisfaction in a professional and accountable manner. The institution's strategic goals have been elaborated through planning documents such as DIPA and employee performance targets (SKP), supported by Standard Operating Procedures (SOPs) and technical guidelines that serve as measurable operational references. The use of digital systems like STATIF and MONALISA demonstrates concrete efforts to provide services that are fast, accurate, and transparent. However, the effectiveness of these goals still faces both technical and non-technical challenges, such as limited human resources, weather conditions, incomplete documents, and suboptimal communication.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

2. Regarding the decision alternative indicator, the strategy selected by the Gorontalo Land Office reflects innovation based on data and participatory approaches—particularly through the WhatsApp-based STATIF system, which addresses public limitations in accessing formal applications. Other digital innovations like SKALA and *Sentuh Tanahku* have been implemented to broaden service channels, though their impact remains limited due to insufficient outreach. These alternative decisions have not yet fully integrated cross-unit internal involvement or external stakeholder partnerships from the outset, limiting their effectiveness. Nevertheless, the organization's response to field dynamics is relatively flexible, including the implementation of online coordination and procedural adaptations in special situations.
3. Regarding resource constraints, internal resource limitations are the primary factor impeding the effectiveness of the optimization strategy. The number of personnel is disproportionate to the workload, the disciplinary evaluation system is weak, and the limited availability of measuring tools leads to service queues and delays. Although tools like GNSS and Total Station meet national standards, their use is suboptimal due to limited quantity. Meanwhile, information systems such as STATIF are considered effective but still face technical disruptions, internet access issues, and low digital literacy. Although operational funding is available, technical training and equipment maintenance still depend on central approval. Efforts to improve staff competencies are largely driven by individual initiative and not yet supported by strong external partnerships.
4. The future strategic direction for land measurement and mapping services at the Gorontalo City Land Office includes: 1) Aggressive Strategy (SO) through the development and integration of digital services such as STATIF, SKALA, and other land-related applications, alongside the strengthening of cross-sectoral cooperation; 2) Diversification and Collaborative Strategy (ST) through active engagement of local governments, sub-districts, and communities in outreach, verification, and digital literacy education; 3) Turnaround Strategy (WO) through enhanced online training, work discipline, and performance evaluation systems to improve staff capacity; 4) Defensive Strategy (WT) by improving contingency systems and service efficiency to address geographic risks and extreme weather conditions.

**REFERENCES**

1. Mustofa, F., Aditya, T., & Sutanta, H. (2018). Sistem informasi pertanahan partisipatif untuk pemetaan bidang tanah: Sebuah tinjauan pustaka komprehensif. *Majalah Ilmiah Globe*, *20*(1), 1. https://doi.org/10.24895/mig.2018.20-1.702
2. Adinegoro, K. R. R. (2023). Analisis Transformasi Digital Layanan Publik Pertanahan: Hak Tanggungan Elektronik pada Kementerian Agraria dan Tata Ruang. *Jurnal Administrasi Publik*, 19(1), 26–49. https://makassar.lan.go.id/jap/index.php/jap/article/view/135
3. Endang, E., Apriyanti, D., Purnawan, B., Atmawijaya, R., & Akbar, Y. (2019). Kajian perbandingan luas hasil pengukuran bidang tanah dengan metode rtk dan metode polar menggunakan ets. Seminar Nasional Geomatika, 3, 75. https://doi.org/10.24895/sng.2018.3-0.920
4. Amrin, R. and Sopyan, A. (2023). Pemanfaatan data spasial aplikasi komputerisasi kantor pertanahan dalam peningkatan informasi geospasial pada aplikasi petakita. kadaster, 1(1), 18-32. https://doi.org/10.31292/kadaster.v1i1.3
5. Suprojo, B., Rosyidi, F., & Pinuji, S. (2021). Pemetaan tematik dan tata ruang kepulauan lengkap berbasis sistem informasi geografis agar tercapainya manajemen pertanahan. Elipsoida Jurnal Geodesi Dan Geomatika, 4(2), 73-84. https://doi.org/10.14710/elipsoida.2021.15157
6. Saputra, Y., Apridiansyah, Y., & Wijaya, A. (2024). Identifikasi ukuran luas tanah dengan mengimplementasikan metode transformasi watershed. Jsai (Journal Scientific and Applied Informatics), 7(2), 296-304. https://doi.org/10.36085/jsai.v7i2.6459
7. Fahmi, K., Kamal, M., & Suhattanto, M. (2023). Pengaturan dan pemanfaatan ortomosaik uav pada pengukuran bidang tanah terintegrasi. Widya Bhumi, 3(1), 31-45. https://doi.org/10.31292/wb.v3i1.52
8. Suryan, V., N, M., Septiani, V., Rizko, R., Afriani, S., & Yoga, M. (2022). Analisa tingkat akurasi pemetaan mengunakan unnamed aerial vehicle (uav). Jurnal Talenta Sipil, 5(1), 79. https://doi.org/10.33087/talentasipil.v5i1.99
9. Amrin, R. (2021). Pelaksanaan program pendaftaran tanah sistematis lengkap (ptsl) di kabupaten hulu sungai tengah dalam mendukung kebijakan satu peta. Seminar Nasional Geomatika, 857. https://doi.org/10.24895/sng.2020.0-0.1201
10. Fariz, T., Jatmiko, R., Mei, E., Arnanto, A., Ramlah, R., & Ramadhan, M. (2020). Pemanfaatan foto udara format kecil untuk pemetaan bidang tanah di sub das bompon. Tunas Geografi, 9(1), 69. https://doi.org/10.24114/tgeo.v9i1.18058

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

11. Rizaldy, R. F., Wijaya, K. A. S., & Purnamaningsih, P. E. (2024). Optimalisasi Reformasi Birokrasi Terhadap Kinerja Pelayanan Kelurahan Airlangga Kecamatan Gubeng Kota Surabaya. *Ethics and Law Journal: Business and Notary*, *2*(1).
12. Peters, B. and Thynne, I. (2022). The oxford encyclopedia of public administration. https://doi.org/10.1093/acref/9780190854454.001.0001
13. Dobrianska, N., Arbuzova, A., & Mazilkina, O. (2022). Public administration as the main type of social management, the field of scientific knowledge and the field of education. Economic Journal Odessa Polytechnic University, 2(20), 11-19. https://doi.org/10.15276/ej.02.2022.2
14. Anggraeni, S. (2024). Perbandingan administrasi negara indonesia dengan negara selandia baru. IRPIA, 9(8), 13-22. https://doi.org/10.71040/irpia.v9i8.244
15. Rahardian, R. (2024). Teori-teori governansi dan kebijakan publik kontemporer. https://doi.org/10.55981/brin.998
16. Yakovlev, D. and Kamynina, N. (2024). The conceptual basis of the entrepreneurial approach of public administration in the transition to a data economy. Ekonomika I Upravlenie Problemy Resheniya, 10/9(151), 68-77. https://doi.org/10.36871/ek.up.p.r.2024.10.09.008
17. Andraško, J. (2017). Theoretical aspects of public administration electronic services. Bratislava Law Review, 1(2), 119-128. https://doi.org/10.46282/blr.2017.1.2.76
18. Publik, J. and Ekowanti, M. (2022). Teori administrasi dan metodologi administrasi publik. Governance JKMP (Governance Jurnal Kebijakan & Manajemen Publik), 1(2), 161-170. https://doi.org/10.38156/governancejkmp.v1i2.28
19. Popescu, M. and Mândru, L. (2021). Changes in management and governance in public administration. case study in romania. Series v - Economic Sciences, 14(63)(1), 71-84. https://doi.org/10.31926/but.es.2021.14.63.1.7
20. Ruban, Y. (2019). Power and authority: changes in public administration from hannah arendt's political philosophy view. Bulletin of Taras Shevchenko National University of Kyiv Public Administration, 12(2), 39-49. https://doi.org/10.17721/2616-9193.2019/12-4/8
21. Vinzant, J. and Roback, T. (1994). Dilemmas of legitimacy. Administration & Society, 25(4), 443-466. https://doi.org/10.1177/009539979402500403
22. Huda, M. (2014). Hak dasar dalam pelayanan publik. *Jurnal Hukum dan Pelayanan*, *9*(1), 45–60.
23. Syafrinaldi, R., Wahyuni, S., & Tanjung, M. (2022). Efektivitas layanan publik berbasis regulasi. *Jurnal Ilmu Hukum dan Pemerintahan*, *4*(1), 19–30.
24. Benius, D. (2021). Pelayanan publik dalam kerangka hukum: Analisis UU No. 25 Tahun 2009 dan No. 23 Tahun 2014. *Jurnal Administrasi Negara*, *7*(2), 67–76.
25. Supriatin, S. and Suhendra, A. (2021). Pengaruh sumber daya manusia terhadap kualitas pelayanan publik di kantor desa pasirsari cikarang selatan. Akrab Juara Jurnal Ilmu-Ilmu Sosial, 6(4), 15. https://doi.org/10.58487/akrabjuara.v6i4.1587
26. Ramadhan, R. (2024). In konsep good governance dalam perspektif pelayanan publik: sebuah tinjauan literatur. SaraqOpat, 6(1), 55-67. https://doi.org/10.55542/saraqopat.v6i1.328
27. Utari, D., & Priyanti, A. (2021). E-government dan transparansi layanan publik. *Jurnal Administrasi Publik Digital*, *3*(1), 11–22.
28. Faisal, F., & Sahar, A. (2024). Transformasi pelayanan publik berbasis kebutuhan masyarakat. *Jurnal Reformasi Administrasi*, *12*(1), 15–28.
29. Muazir, H., Khairuddin, A., & Nurdin, R. (2022). Evaluasi pelayanan publik dalam perspektif masyarakat. *Jurnal Birokrasi dan Pemerintahan Daerah*, *13*(2), 81–94.
30. Putri, N., Darsiharjo, D., & Sugito, N. (2023). Analisis efektivitas metode digitasi on-screen dan object-based image analysis (obia) melalui foto udara dalam pemetaan bidang tanah kawasan permukiman (studi kasus di desa ciwaruga, kecamatan parongpong, kabupaten bandung barat). Geoid, 19(1), 73. https://doi.org/10.12962/j24423998.v19i1.12592
31. Wulansari, H., Widiyantoro, S., & Widodo, S. (2024). Problematika dan upaya penyelesaian desa lengkap di kabupaten klaten. Tunas Agraria, 7(1), 102-125. https://doi.org/10.31292/jta.v7i1.278
32. Harahap, F. and Manullang, O. (2019). Prospek dan strategi pengembangan e-learning pemetaan dalam inventarisasi aset tanah desa (studi kasus: peta aset tanah desa asinan, kecamatan bawen, kabupaten semarang). Jurnal Pengembangan Kota, 7(1), 1. https://doi.org/10.14710/jpk.7.1.1-14

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 08 Issue 06 June 2025
DOI: 10.47191/ijcsrr/V8-i6-23, Impact Factor: 8.048
IJCSRR @ 2025
www.ijcsrr.org

33. Butarbutar, A. H., Lubis, M. Y., Kalo, S., & Sunarmi, S. (2023). Transparansi dan akuntabilitas dalam kebijakan penentuan tarif biaya transportasi dan akomodasi dalam pendaftaran tanah pertama kali di kantor pertanahan kabupaten Toba Samosir. *Locus: Jurnal Konsep Ilmu Hukum*, 3(1), 35–51. https://doi.org/10.56128/jkih.v3i1.40
34. Ratrianto, R., Murdapa, F., & Widyawati, R. (2022). Peran surveyor berlisensi dalam percepatan pendaftaran tanah di indonesia. Jurnal Rekayasa Lampung, 1(1). https://doi.org/10.23960/jrl.v1i1.4
35. Utomo, W., Kusbianto, K., & Zuliah, A. (2022). Benefits And Legal Certainty For The Community On Participatory Mapping Services At The Medan City Land Office. *Legalpreneur Journal*. https://doi.org/10.46576/lpj.v1i1.2636.
36. Tahir, A. (2020). *Administrasi publik: Good governance menuju sound government*. Bandung: Alfabeta.
37. Hatu, R. A. (2022). *Sosiologi pembangunan: Suatu tinjauan prespektif teori dan empirik*. Gorontalo: UNG Press. https://repository.ung.ac.id/get/karyailmiah/10083/Buku-Sosiologi-Pembangunan-Suatu-Tinjauan-Prespektif-Teori-dan-Empirik.pdf
38. Mozin, S. Y., & Isa, R. (2021). Optimalisasi pelayanan publik dalam tata kelola pemerintahan desa. *Jurnal Ilmiah Administrasi Publik*, 7(1), 45–55. https://pdfs.semanticscholar.org/1a23/529e3d1dbec8bc42e8f4fc024ac3abfc453b.pdf
39. Murong, R. (2022). Research on Land Renovation Planning Strategy based on Digital Surveying and Mapping Technology. *Frontiers in Science and Engineering*. https://doi.org/10.54691/fse.v2i12.3289.
40. Poccard-Chapuis, R., Plassin, S., Osis, R., Pinillos, D., Pimentel, G., Thalês, M., Laurent, F., De Oliveira Gomes, M., Darnet, L., De Carvalho Peçanha, J., & Piketty, M. (2021). Mapping Land Suitability to Guide Landscape Restoration in the Amazon. *Land*, 10, 368. https://doi.org/10.3390/LAND10040368.

***Cite this Article: Mattewakkang, K., Tahir, A., Mozin, S.Y. (2025). Optimization Strategy for Land Parcel Surveying and Mapping Services at the Land Office of Gorontalo City. International Journal of Current Science Research and Review, 8(6), pp. 2912-2923. DOI: https://doi.org/10.47191/ijcsrr/V8-i6-23***