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Analysis of Factors Affecting Public Service Productivity at Civil Registry Office Southwest Sumba

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Abstract

This study investigates the determinants of public service productivity at the Department of Population and Civil Registration in Southwest Sumba Regency, Indonesia, where bureaucratic rigidity, limited infrastructure, and suboptimal digital utilization hinder service effectiveness. The objective of this research is to analyze the influence of employee competence, physical facilities, information systems, and leadership on public service quality. A quantitative descriptive approach was employed using Structural Equation Modeling based on Partial Least Squares (PLS-SEM) with SmartPLS software. Primary data were collected through Likert-scale questionnaires distributed to 59 employees as respondents. The findings reveal that employee competence has a positive but statistically insignificant effect on service quality, indicating that individual cognitive capacity is constrained by rigid bureaucratic procedures. Physical facilities also show an insignificant influence, suggesting that office infrastructure is perceived as a basic hygiene factor rather than a performance driver. In contrast, the information system variable has a positive and significant effect, demonstrating its crucial role in streamlining administrative processes and reducing service completion time. Meanwhile, leadership shows a significant negative effect, indicating the presence of micromanagement practices that restrict employee autonomy and reduce operational efficiency.

Keywords: *public service productivity, employee competence, information system, leadership*

JEL Classification: H83, D73, O33

INTRODUCTION

Public service productivity is a fundamental indicator of government performance in delivering efficient, effective, and equitable services to citizens. In the context of population administration, the Department of Population and Civil Registration (Dinas Kependudukan dan Pencatatan Sipil/Dukcapil) plays a strategic role in providing essential civil documents such as identity cards, birth certificates, and other legal identity records. However, in many developing regions, including Southwest Sumba Regency, Indonesia, public service delivery still faces persistent challenges that hinder optimal performance. These challenges include bureaucratic rigidity, limited human resource capacity, inadequate infrastructure, and

insufficient utilization of information systems, which collectively contribute to low service productivity and reduced public satisfaction (Yudhasena, 2024; Barbosa et al., 2020).

Previous studies emphasize that public service performance is strongly influenced by multiple organizational factors. Employee competence is considered essential in ensuring service efficiency, as skilled and knowledgeable staff are better equipped to handle administrative processes effectively (Rahayu & Prasetyo, 2023). In addition, the availability of adequate facilities and infrastructure plays a significant role in supporting operational efficiency, while the adoption of digital information systems has been identified as a key driver in accelerating service delivery and improving data accuracy (Novita, 2023). Leadership is also widely recognized as a critical determinant in shaping organizational behavior, motivation, and coordination among employees (Dadang et al., 2023). Despite these established findings, the interaction of these factors within local government civil registry institutions in remote Indonesian regions remains underexplored.

In Southwest Sumba, empirical evidence indicates that service productivity in Dukcapil offices has not yet reached expected targets, as reflected in inconsistent performance achievements across key administrative indicators. Preliminary data show that several service outputs such as e-ID card ownership, birth certificate coverage, and marriage certificate issuance remain below institutional targets over multiple years, indicating suboptimal organizational performance. These conditions suggest that existing resources and management systems have not been fully optimized to support service delivery effectiveness.

The novelty of this study lies in its integrated analysis of employee competence, infrastructure, information systems, and leadership simultaneously within a single structural model using the PLS-SEM approach. Unlike previous studies that often examine these variables separately or in more urbanized contexts, this research focuses on a remote regency with distinctive geographical and administrative constraints. Therefore, this study is expected to provide a more comprehensive and contextual understanding of how internal organizational factors influence public service productivity in local civil registration institutions, particularly in underdeveloped regions of Indonesia.

METHOD

In both quantitative and qualitative research, the use of appropriate participant sampling, research design, measurement instruments, and statistical analysis plays a crucial role in ensuring methodological rigor. A sound methodology must be both clean and clear. Clean refers to the use of valid, appropriate, and unbiased procedures in sampling, measurement, and data analysis, while clear refers to the ability of the research design to be replicated by other researchers with the same procedures. This study adopts a quantitative approach with a descriptive-analytical and explanatory design to examine factors influencing public service productivity at the Department of Population and Civil Registration in Southwest Sumba Regency (Sugiyono, 2022).

The research focuses on analyzing the influence of employee competence, facilities and infrastructure, information systems, and leadership on public service productivity. The population consists of employees and relevant stakeholders involved in population administration services, while the sample is selected using probability sampling techniques. Specifically, simple random sampling and

proportionate stratified random sampling are applied to ensure representativeness across employee categories. The sample size is determined using the Slovin formula, resulting in 59 respondents who have worked for more than one year in the institution (Sugiyono, 2022).

Data collection is conducted using multiple methods to ensure triangulation and data completeness. These include questionnaires, interviews, observation, and documentation. The questionnaire is the primary instrument and is designed using a five-point Likert scale ranging from strongly disagree to strongly agree. It is distributed to employees and service users to capture perceptions regarding competence, infrastructure, information systems, leadership, and service productivity. Semi-structured interviews are conducted with structural officials to obtain in-depth qualitative insights, while observation is carried out directly at service locations to assess service processes and infrastructure conditions. Documentation is used to collect secondary data such as annual reports, service records, and employee data (Sugiyono, 2022).

The variables in this study consist of one dependent variable, namely public service productivity (Y), and four independent variables, namely employee competence (X1), facilities and infrastructure (X2), information systems (X3), and leadership (X4). Each variable is operationalized using measurable indicators based on established theoretical frameworks. Validity and reliability testing are conducted using Pearson Product Moment correlation and Cronbach's Alpha, with minimum thresholds of 0.30 and 0.60 respectively.

For data analysis, this study employs both descriptive and inferential statistics. Descriptive analysis is used to describe respondent characteristics and variable distributions using mean, standard deviation, and frequency distributions. Inferential analysis is conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. This method is chosen due to its flexibility in handling small sample sizes, non-normal data distributions, and complex relationships between latent variables. Hypothesis testing is performed using bootstrapping procedures with a significance level of 5%, where relationships are considered significant if p-value ≤ 0.05 or t-statistic > 1.96 (Jogiyanto dan Abdillah, 2020). The methodological approach ensures that the study is both empirically robust and replicable, allowing for a comprehensive examination of the determinants of public service productivity in a structurally constrained and geographically challenging region.

RESULTS AND DISCUSSION

This section presents the results of hypothesis testing and a comprehensive discussion of the empirical findings derived from the SmartPLS structural model analysis. The results include both expected and unexpected relationships between variables, supported by statistical evidence including path coefficients, T-statistics, and P-values. The interpretation is further enriched with theoretical justification and contextual analysis of public service productivity in the Department of Population and Civil Registration of Southwest Sumba Regency.

The results of the structural model testing indicate varying levels of influence among the examined variables. Employee Competence and Regulation (X1) shows a positive but statistically insignificant effect on Service Quality (Y1), with a path coefficient of 0.187, T-statistic of 1.592, and P-value of 0.117 ($p > 0.05$).

This result indicates that H1 is rejected, suggesting that individual competence alone is insufficient to significantly improve service quality due to structural bureaucratic constraints (Hardiyansyah, 2018). Similarly, Facilities and Infrastructure (X2) exhibit a negative and insignificant effect on Service Quality (Y1), with a path coefficient of -0.067, T-statistic of 0.553, and P-value of 0.582. Therefore, H2 is rejected. This finding indicates that physical infrastructure functions merely as a hygiene factor that does not directly contribute to perceived service quality improvements (Ratminto & Atik, 2019).

In contrast, Information Systems (X3) demonstrate a positive and significant effect on Service Quality (Y1), with a path coefficient of 0.323, T-statistic of 2.560, and P-value of 0.013 ($p < 0.05$). Thus, H3 is accepted. This finding confirms that digital-based administrative systems significantly enhance service efficiency and effectiveness by reducing procedural complexity and accelerating document processing (Dwiyanto, 2021). Leadership (X4) shows a significant but negative effect on Service Quality (Y1), with a path coefficient of -0.329, T-statistic of 2.932, and P-value of 0.005 ($p < 0.05$). Therefore, H4 is accepted. This indicates that excessive control and micromanagement practices negatively affect employee autonomy and operational efficiency in service delivery (Pasolong, 2019).

Factors Affecting Public Service Productivity in Southwest Sumba Civil Registry Office

The low productivity of public services in the Department of Population and Civil Registration of Southwest Sumba Regency is influenced by a complex interaction of structural, technological, and cultural factors. Public service productivity is not only determined by output quantity but also by efficiency, responsiveness, and service accuracy. The findings reveal that bureaucratic rigidity, uneven competence distribution, and limited digital infrastructure contribute significantly to operational inefficiencies (Hayat, 2019). Employee competence does not significantly affect service quality due to structural constraints within the bureaucratic system that limit the practical application of knowledge in daily operations. Although employees possess adequate understanding of administrative regulations, their effectiveness is reduced by procedural rigidity and lack of operational flexibility (Sinambela, 2021). This condition results in delayed document processing and accumulation of administrative backlogs.

Facilities and infrastructure also do not significantly influence service quality, as they are perceived as basic hygiene factors rather than performance enhancers. Employees consider physical infrastructure as a standard requirement rather than a motivational driver. Consequently, improvements in physical facilities alone do not lead to measurable increases in service productivity (Sedarmayanti, 2019). Conversely, information systems play a crucial role in improving service quality. The implementation of the SIAK system has significantly reduced manual administrative workload and improved data processing efficiency. This finding aligns with previous studies emphasizing the importance of digital transformation in public sector performance improvement (Fakhrurrazi et al., 2022). Leadership has a significant negative effect, indicating that overly rigid supervisory practices reduce employee autonomy and innovation. Micromanagement limits decision-making flexibility at the operational level, resulting in slower service delivery and decreased responsiveness to public needs (Siregar, 2023). This finding contradicts

conventional leadership theories that generally associate leadership with positive organizational outcomes.

Table 1. Hypothesis Testing Results of Structural Model

Hypothesis	Relationship	Path Coefficient	T-Statistic	P-Value	Result
H1	X1 → Y1	0.187	1.592	0.117	Not Supported
H2	X2 → Y1	-0.067	0.553	0.582	Not Supported
H3	X3 → Y1	0.323	2.560	0.013	Supported
H4	X4 → Y1	-0.329	2.932	0.005	Supported

Source: SmartPLS Output Analysis (2026)

Interpretation and Theoretical Implications

The findings highlight that digital transformation (X3) is the most dominant factor influencing public service productivity, while leadership (X4) unexpectedly exhibits a negative effect. This indicates a mismatch between traditional bureaucratic leadership models and the demands of modern digital governance systems. Furthermore, the insignificance of competence (X1) and infrastructure (X2) suggests that their effectiveness is highly dependent on systemic and technological enabling conditions. The study contributes to public administration theory by demonstrating that in peripheral regions with infrastructural limitations, technological systems can substitute and even outweigh traditional organizational factors such as competence and physical facilities. This finding extends the applicability of public service performance theory in developing regional contexts (Dwiyanto, 2021; Siregar, 2023).

CONCLUSION (Capital, 12 pts, bold)

In this study, the analysis of factors influencing public service productivity at the Department of Population and Civil Registration (Dispendukcapil) of Southwest Sumba Regency reveals that service quality is shaped by the interaction of employee competence, physical infrastructure, information systems, and leadership structure. The empirical findings indicate that bureaucratic rigidity, uneven competency application, limited infrastructure effectiveness, and leadership style collectively contribute to the overall performance of public services. These factors demonstrate that public service productivity in the studied institution is not determined by a single variable, but rather by a complex system of organizational and technological interdependencies.

The results further confirm that employee competence has a positive but statistically insignificant effect on service quality, as its practical implementation is constrained by rigid bureaucratic procedures. Similarly, physical facilities and infrastructure do not significantly influence service quality, as they function primarily as basic hygiene factors rather than direct performance drivers. In contrast, information systems are proven to have a positive and significant effect, highlighting the critical role of digital transformation in improving efficiency, reducing procedural complexity, and accelerating service delivery. Meanwhile, leadership shows a significant negative effect, indicating that overly strict supervisory practices and micromanagement reduce employee autonomy, flexibility, and responsiveness in service execution.

Based on these findings, several recommendations are proposed. First, leadership practices should be reoriented toward a more participative and trust-based approach by reducing excessive control over frontline decisions to enhance service speed and responsiveness. Second, continuous investment in information technology infrastructure is essential, including stable internet systems and backup power supply, to ensure uninterrupted digital service operations. Third, training programs should focus on practical skill development, particularly in the use of digital applications and public service communication, rather than solely emphasizing regulatory memorization. Finally, attention should be given to the welfare and incentive systems for contract and frontline employees to improve motivation and service commitment. Future research is encouraged to explore additional variables such as organizational culture, work motivation, and citizen satisfaction to provide a more comprehensive understanding of public service productivity in remote administrative contexts.

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