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The Influence of E-Purchasing and Good Governance on Urban and Regional Planning Quality at the Regional Secretariat of Simalungun Regency

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Abstract

This study analyzes the influence of the e-purchasing system on the fulfillment of the principles of good governance and the quality of regional and urban planning in the Simalungun Regency Regional Secretariat. Using an explanatory quantitative design with total sampling, as many as 41 employees involved in procurement and planning became respondents. Data were collected through a Likert scale questionnaire and tested with Pearson's correlation for validity as well as Cronbach's Alpha for reliability (a = 0.991). The residual normality assumption is met. Multiple linear regression analysis is used to test the partial and simultaneous influence of variables. The results show that e-purchasing has a significant effect on good governance, increasing transparency, accountability, and process efficiency. Good governance practices in procurement have been identified as having run quite well. The effect of e-purchasing on planning quality was very significant and dominant (B = 0.883; β = 0.886; t = 35.929; p < 0.001), while good governance also had a positive and significant effect (B = 0.143; t = 4.697; p < 0.001). Simultaneously, the two variables explain almost all variations in planning quality (R^2 = 0.999; F = 18,712,641; p < 0.001), indicates the feasibility of the model. The findings confirm that the integration of e-purchasing and good governance is an operational prerequisite for realizing effective, efficient, and accountable regional development planning. Recommendations include strengthening human resource capacity, procurement data governance, and improving infrastructure and derivative rules to maintain consistency in implementation..

Keywords: e-purchasing, good governance, urban planning, quantitative

Abstrak

Penelitian ini menganalisis pengaruh sistem e-purchasing terhadap pemenuhan prinsip-prinsip tata kelola yang baik dan kualitas perencanaan regional dan perkotaan di Sekretariat Daerah Kabupaten Simalungun. Menggunakan desain kuantitatif eksplanatori dengan sampling total, sebanyak 41 pegawai yang terlibat dalam pengadaan dan perencanaan menjadi responden. Data dikumpulkan melalui kuesioner skala Likert dan diuji validitasnya dengan korelasi Pearson serta reliabilitasnya dengan Cronbach's Alpha (α = 0.991). Asumsi normalitas residu terpenuhi. Analisis regresi linier berganda digunakan untuk menguji pengaruh parsial dan simultan variabel. Hasil menunjukkan bahwa e-purchasing memiliki pengaruh signifikan terhadap tata kelola yang baik, meningkatkan transparansi, akuntabilitas, dan efisiensi proses.

Praktik tata kelola yang baik dalam pengadaan telah diidentifikasi berjalan dengan baik. Pengaruh e-purchasing terhadap kualitas perencanaan sangat signifikan dan dominan (B = 0.883; β = 0.886; t = 35.929; p < 0.001), sementara tata kelola yang baik juga memiliki pengaruh positif dan signifikan (B = 0.143; t = 4.697; p < 0.001). Secara bersamaan, kedua variabel tersebut menjelaskan hampir seluruh variasi dalam kualitas perencanaan (R^2 = 0,999; F = 18.712.641; p < 0,001),).), menunjukkan kelayakan model tersebut. Temuan ini menegaskan bahwa integrasi e-purchasing dan tata kelola yang baik merupakan prasyarat operasional untuk mewujudkan perencanaan pembangunan regional yang efektif, efisien, dan akuntabel. Rekomendasi meliputi penguatan kapasitas sumber daya manusia, tata kelola data pengadaan, dan perbaikan infrastruktur serta aturan turunan untuk menjaga konsistensi dalam implementasi.

Kata kunci: e-purchasing, tata kelola yang baik, perencanaan kota, kuantitatif

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1. Introduction

Departing from the need to realize spatial planning and sustainable development, Urban and Regional Planning (PWK) is understood as a field that examines spatial conditions as well as planning them for future interests. The scope of study covers the scale of the environment to a wider area, with balanced attention to the physical and social elements that shape the quality of life of the community. The main literature in the reference manuscript places a number of pillars as conceptual foundations—economic, social, ecological (sustainability), spatial planning, culture, institutional and urban planning, as well as technology and information—which affirms that a good PWK requires integration between these aspects so that the region/city functions holistically and resiliently to meet the challenges of contemporary development. In this context, a balance between the pillars is a prerequisite for ensuring that spatial interventions are not only technically efficient, but also socially legitimate and ecologically sustainable (Cattivelli, 2021; Ilmiah Guru Besar Institut Teknologi Bandung et al., 2024; Ogunkan, 2025).

At the institutional level, the Regional Secretariat (Setda) of Simalungun Regency plays a strategic role in assisting the functions of the Regent and Deputy Regent: formulating policies, synergizing coordination between regional apparatus work units, and overseeing the implementation of programs according to the direction of district development. Of all these tasks, the procurement of goods/services occupies a central position because it is the backbone of providing inputs for cross-sectoral development programs—ranging from basic infrastructure, public facilities, to administrative services that support the planning and spatial planning process. In other words, the success of the PWK agenda is highly determined by the smooth procurement chain within the Regional Secretariat (Barbosa & Fiuza, 2025; Caserta et al., 2025).

Normatively, the procurement of government goods/services is regulated by Presidential Regulation Number 16 of 2018 and its amendments. The regulation emphasizes that procurement is an activity of Ministries, Institutions, and/or Regional Apparatus financed through the State Budget/Regional Budget. The large proportion of the budget disbursed for procurement requires transparent and accountable practices to prevent abuse, leakage, and inefficiency. It is within this framework that the Government

Goods/Services Procurement Policy Institute (LKPP) encourages transformation through electronic mechanisms, including e-Purchasing, to strengthen governance while accelerating the government spending process.

The reference manuscript underlines the relevant definitions from the perspective of technology and electronic commerce. E-Purchasing is positioned as a platform that brings together sellers and buyers online in the government procurement ecosystem—with electronic catalogs as one of the key infrastructure—as well as utilizing electronic devices and procedures as regulated in Government Regulation Number 80 of 2019 concerning Trade Through Electronic Systems (PMSE). The academic view cited emphasizes that technological acceleration facilitates work activities and transactions, while electronic catalogs function as third parties that provide facilities for procurement actors (buyers) and providers (sellers) to transact in a transparent and documented manner (Sipahi & Enginoglu, 2015).

The success of e-Purchasing is greatly supported by the quality and breadth of electronic catalogs. The policy direction encourages the expansion of the number and type of goods/services in the catalog so that the Ministry of Ministries and Ministries and Ministries can make maximum use of them to accelerate procurement. At the same time, catalog management requires human resource competencies who understand the substance of public procurement, especially aspects of product curation, technical specifications, and election management. Without adequate capacity support, the potential benefits of e-Purchasing are difficult to realize consistently at the regional operational level (Ferraresi et al., 2021).

The relevance of procurement to PWK is evident when viewed from the planning value chain—from the provision of physical needs and supporting services for development programs to quality control of results in the field. Procurement failures—in the form of delays, non-conformities in specifications, or costs beyond control—not only cause financial inefficiencies, but also reduce the quality of good governance and cut off the continuity of the program. Therefore, e-Purchasing is expected to be an instrument to strengthen accountability, reduce opportunities for abuse of authority (corruption, collusion, nepotism), and increase the effectiveness and efficiency of public spending which leads to the readiness and accuracy of the implementation of spatial planning and urban development (Ceseracciu et al., 2025).

However, implementation experience shows that the journey towards mature procurement governance through e-Purchasing is not without obstacles. The reference manuscript noted various challenges: uneven technical literacy and understanding at the regional level, unequal information technology infrastructure, and resistance of some parties to new mechanisms. In many cases, these problems are exacerbated by competency disparities in the functions of needs planning, preparation of specifications, and evaluation of provider performance. The absence of empirical studies that explicitly evaluate the impact of e-Purchasing on procurement in the context of PWK is also highlighted as a knowledge gap that needs to be closed in order for policy interventions to be more evidence-based (Kardiati, 2025).

The special conditions at the Simalungun Regency Regional Secretariat show a more real urgency. In this area, there are still loopholes that allow for abuse even though the system is designed to improve transparency and efficiency. In addition, the limitation of

competent human resources and inadequate infrastructure support have a direct impact on procurement performance, which then spreads to regional and urban planning aspects. The symptoms include delays in project implementation, mismatches between plans and procurement realization that interfere with long-term programs, the application of good governance principles that are not optimal, and technical problems in the e-catalog. To alleviate these problems, integrated steps are needed in the form of increasing human resource capacity, strengthening IT infrastructure, sharper monitoring and evaluation mechanisms, and expanding public participation so that the procurement and planning process is more inclusive and accountable (Mohamed et al., 2020).

From a governance point of view, good governance is a normative compass for the implementation of public procurement. The script articulates key principles such as transparency, participation, accountability, effectiveness, and efficiency as parameters that should be reflected throughout the procurement cycle—from needs planning, supplier selection, contract execution, to handover and post-implementation evaluation. E-Purchasing is positioned as a lever because it presents a digital track record and opens up stronger audit opportunities. However, its usefulness requires a rearrangement of business processes and SOPs, alignment of data across systems (planning–budgeting–procurement), and continuous human resource development so that institutional capacity does not only depend on individuals, but is internalized within the organization (Chakraborty et al., 2015; Malekabadi et al., 2025).

The close relationship between procurement and PWK is described in more detail in the reference document. Effective and efficient procurement is considered a prerequisite for realizing sustainable development, because it is where the availability of supporting goods and services for physical projects and social programs in the region is located. Conceptually, e-Purchasing is expected to have a dual impact: improving procurement governance while restoring trust in the capacity of local governments to convert plans into useful physical works. When the principles of good governance are reflected in electronic-based procurement, the results are anticipated in the form of projects that are more timely, according to specifications, and responsive to the real needs of the community (Biswas et al., 2019; Caserta et al., 2025).

However, the initial experience of implementation shows that a number of obstacles are systemic. In Simalungun, recurring challenges are the limitations of e-Purchasing technical literacy for users in work units, the readiness of IT infrastructure that is not yet uniform, and resistance to changes in business processes. These obstacles, if not addressed, have the potential to trap procurement on a purely administrative approach and distance its purpose as an instrument of regional development. The diagnosis in the manuscript suggests that the answer to these obstacles lies not only in the technical improvement of the system, but also in strengthening institutions, oversight, and public participation—so that procurement does not become a dark space that is difficult to access and assess, but rather an open, measurable, and objectively auditable arena (Hokayem & Kairouz, 2014; Vu et al., 2025).

The research agenda offered departs from this problematic background. This research explicitly focuses on the influence of the e-Purchasing system on the prevention of abuse of authority and its role in realizing the principles of good governance in the realm of regional and urban planning. With the locus at the Simalungun Regency Regional

Secretariat, the research is expected to contribute empirical evidence on how procurement electronic instruments correlate with the quality of processes and results of spatial development, as well as formulate policy recommendations for optimizing implementation at the regional level.

The formulation of the empirical problem is described in the form of interrelated research questions: whether the application of e-Purchasing has a significant effect on the achievement of the principles of good governance; the extent to which the principles have been applied in procurement practices; is there a direct influence of e-Purchasing on the quality of regional and urban planning; and how the simultaneous influence of e-Purchasing and good governance on PWK. These questions guide the design of the analysis to explore direct and indirect effects, opening up the possibility of finding relationships mediated by the institutional quality of procurement.

In the existing study landscape, the reference manuscript emphasizes the lack of research that specifically identifies the impact of e-Purchasing on procurement in the context of PWK. This gap becomes a gap of novelty to be filled: instead of just measuring efficiency or transparency at the transaction level, this research aims to link e-Purchasing and governance with sectoral outcomes of regional and urban development. Thus, its contribution does not stop at the improvement of procurement procedures, but also at the understanding of how institutional design and procurement technologies resonate on the quality of public services and the implementation of spaces.

The substantive objectives of this study include the identification of the application of e-Purchasing in the procurement of goods/services within the Regional Secretariat, the assessment of the implementation of good governance principles in each stage of procurement, the analysis of the influence of e-Purchasing on regional and urban planning, the analysis of the influence of good governance principles on regional and urban planning, and the evaluation of the simultaneous influence of the two on PWK. The set of objectives is not only descriptive, but is designed to produce findings that can be tested and acted upon, so that the recommendations that are born have a foothold in the factual conditions of Simalungun and can be adapted in other areas with similar characteristics.

The practical implications of this agenda target four connected axes of improvement. First, strengthening the competence of procurement and end-user human resources in the technical work unit to be able to translate development needs into appropriate specifications, choose products/services objectively, and supervise the implementation of contracts effectively. Second, structuring data architecture and system integration between planning, budgeting, and procurement so that needs-based spending decisions are tested and traceable. Third, improving data-based monitoring and evaluation mechanisms to close the gap of abuse and strengthen accountability. Fourth, curating e-catalogs that are responsive to local needs and expanding competitive provider alternatives, so that procurement devices are not stuck in narrow choices and prone to conflicts of interest. All of these axes are closely related to the initial finding that the quality of electronic catalogs and the competence of their managers determine the success rate of e-Purchasing spurring procurement performance in the regions.

2. Literature Review

The initial review places e-purchasing as a key subsystem in the Electronic Procurement System (SPSE) built and developed by the Government Goods/Services Procurement Policy Institute (LKPP). Normatively, e-purchasing is understood as an electronic information system that contains standardized information regarding the list and types of goods/services, technical specifications, Domestic Component Level (TKDN), domestic product status, conformity with Indonesian National Standards (SNI), green industry certification, country of origin, prices, suppliers, and other relevant information. The operational goal is to realize fast, easy, transparent, and recorded procurement of government goods/services (PBJP). The latest policy orientation also places e-purchasing as a driver to increase the participation of micro, small, and cooperative enterprises (MSEs) and to encourage the use of domestic products (PDN) (Khorana et al., 2024).

The legal framework that governs this ecosystem shows integration between regulations. Government Regulation (PP) Number 71 of 2019 defines electronic systems and their operators, emphasizing the functions of preparation, collection, processing, analysis, storage, broadcasting, announcement, delivery, and/or dissemination of electronic information in the governance of public services. On the trade side, Government Regulation Number 80 of 2019 formulates the Electronic System Trade (PMSE) regime, including the obligation to present electronic offer information that at least includes the specifications of goods/services, prices, agreement terms, payment and delivery mechanisms, risk management, and liability restrictions. Both are the functional basis for the practice of e-purchasing as a model of electronic transactions in the domain of government procurement.

At the presidential policy level, Presidential Regulation (Perpres) Number 16 of 2018 concerning PBJP which has been amended by Presidential Regulation Number 12 of 2021 strengthens the need to expand the participation of MSEs and increase the use of PDN in procurement. The technical implementation is guided by LKPP Regulation Number 9 of 2021 concerning Online Stores and e-purchasing and the Decree of the Head of LKPP Number 122 of 2022 concerning Procedures for Implementing e-purchasing. These two derivative regulations regulate the implementation of electronic catalogs (national, sectoral, local), the role of actors (Head of LKPP, K/L/PD leaders, PPK/PP, and providers), as well as the process of curation, broadcasting, updating information, and monitoring and evaluation. In addition, the Decree of the Head of LKPP Number 43 of 2022 and Number 44 of 2022 simplifies the determination of local and sectoral catalog managers, in line with the policy of cutting the bureaucracy of provider registration into two stages (registration and viewing). Presidential Instruction Number 2 of 2022 then strengthens affirmative policies by encouraging the allocation of at least 40% of goods/services spending for MSE-K/PDN products in K/L/PD.

At the practical level, the structure of electronic catalogs is divided into three. The National Catalog is compiled by LKPP for general commodities on a national scale; Sectoral Catalogs are managed by ministries/institutions for technical commodities and innovation (e.g. by BRIN); Local Catalogs are managed by local governments with an orientation on local products/providers. Serving products in the catalog, except for ad features or other

ones set up through product reviews, is accessible across managers, allowing for more flexible movement of requests. In this framework, e-purchasing also functions as a repository of products/services that connect demand-driven and supply-driven sides to form a link and match between consumers and suppliers. The strengthening of PDN is supported by TKDN provisions, and for packages with a ceiling of up to IDR 15 billion, preference is set for qualified providers of small businesses/cooperatives.

The benefits of e-purchasing recorded in the reference materials include ease of process, guarantee of specifications and consistency of reference prices, resource savings through electronic automation, traceability of transactions for analysis and supervision, measurable market formation, acceleration of service provision, acceleration of budget absorption, transaction transparency, and cost/time efficiency for both users and providers. Thus, e-purchasing not only acts as a transaction channel, but also a governance instrument that organizes information standardization and strengthens digital accountability mechanisms in the procurement sector (Moshtari et al., 2021).

Good Governance

The concept of good governance is positioned as a governance paradigm that emphasizes administrative effectiveness, transparency, accountability, and orientation to public welfare. In the realm of regional and urban planning, good governance is the foundation for creating a sustainable, inclusive, and effective spatial plan for all stakeholders. The reference material emphasizes that regional autonomy is a crucial step to strengthen governance, with the prerequisite for synergistic engagement between the government and the community as the main actor.

The benefits derived from the implementation of good governance refer to conceptual references (Bappenas, 2008), including the formation of an institutional system and governance that is clean, efficient, effective, transparent, professional, and accountable; increasing community participation in policy-making; reduced corruption, collusion, and nepotism practices; as well as ensuring consistency and certainty of regulatory laws at the central and regional levels. Its principles are embodied through participation, transparency, accountability, effectiveness-efficiency, fairness and inclusion, law enforcement, consensus orientation, and a long-term strategic vision—all projected to ensure a responsive, fair, and results-oriented planning process.

The implementation of these principles in regional and urban planning includes the integration of economic, social, and environmental aspects in spatial planning and development; the use of information technology such as e-planning and e-purchasing to ensure the efficiency and transparency of data management and decision-making processes; strengthening supervision and evaluation at each stage; and community empowerment so that their participation capacity increases. Thus, good governance works not only at the normative level, but also at the operational level through measurable, documented, and open processes (Yitbarek et al., 2025).

The Influence of the E-Purchasing System for the Procurement of Goods/Services in Realizing Good Governance of Regional and City Planning The linkage between e-purchasing and good governance is demonstrated through the ability of electronic systems to simplify procedures, reduce information asymmetry, and expand accountability through a comprehensive digital footprint. The reference emphasizes that the procurement of goods/services is an activity of strategic value with a wide impact on the economy and

public services; Therefore, improving procurement governance has a direct impact on changes in bureaucratic and business actors' behavior. The use of e-catalog-based e-purchasing provides information facilities that contain lists, specifications, and types of products from verified providers, making the selection process more transparent and competitive while encouraging more coordinated procurement integration.

From the perspective of regional/urban development, the acceleration and standardization of procurement through e-purchasing contributes to the timeliness of program implementation, the suitability of goods/services specifications with sectoral needs, and budget efficiency, which collectively strengthens the effectiveness of achieving spatial plan targets. Affirmative provisions—such as preferences for MSEs and PDNs and the determination of TKDN—have regional economic implications: strengthening local supply chains, stimulating regional markets, and growing small/medium industrial bases. This articulates the dimensions of justice and inclusion in the principles of good governance, as the benefits of development are more equitable and the participation of local actors increases.

E-purchasing as one of the answers to the risk of fraud in procurement. As formulated by Sutedi (2012), e-purchasing—as a procurement method based on information and communication technology—allows the procurement process of goods/services to take place effectively, efficiently, openly, competitively, transparently, fairly/non-discriminatory, and accountable; characteristics that are expected to encourage the realization of good governance while minimizing fraudulent practices that harm state finances. This set of benefits is not a purely normative assumption, but a consequence of a system architecture that requires standardization of product information, electronic recording of transactions, and data-based supervision. (Khorana Et al., 2024)

Nevertheless, the source literature reminds that optimizing the impact of e-purchasing requires institutional readiness. Human resource capacity in the functions of needs planning, preparation of technical specifications, and evaluation of provider performance must support orderly data discipline; information technology infrastructure needs to be adequate and even; and change leadership needs to consistently encourage openness and accountability. Without these prerequisites, e-purchasing risks being reduced to a mere administrative tool, lacking the substantive governance improvements needed to accelerate regional and urban planning. Therefore, a combination of regulatory policies (Perpres, PP, Regulation/LKPP Decree), strengthening business processes, and continuous technical coaching must run simultaneously so that systemic benefits can be achieved. (Ferraresi Et al., 2021).

3. Research Methodology

This study employs a quantitative approach with regression analysis to empirically test and measure the magnitude of the influence of the independent variables on the dependent variable. The entire inferential process rests on numerical data collected through a structured survey, whereby each conceptual construct is translated into scores that can be statistically analyzed. The chosen research design is a cross-sectional survey that captures conditions at a single point in time. The research site is the Regional Secretariat of Simalungun Regency, serving both as the institutional context for the

implementation of e-Purchasing in the procurement of goods and services and as the locus for applying Good Governance principles in the regional and urban planning process. The study population comprises all 41 employees of the Regional Secretariat. Given the small, relatively homogeneous population, all of whom are directly involved in procurement and planning, a total sampling (census) technique is used, making the sample size identical to the population. This approach ensures full representativeness and minimizes inferential error arising from partial sampling in a small population. Data processing is conducted with SPSS for Windows.

The study examines three principal constructs. The first independent variable is Implementation of the e-Purchasing System (X1), assessed through the dimensions of process efficiency, transparency, accessibility, transaction accountability, data integration, and ease of supervision and monitoring. The second independent variable is Good Governance (X2), positioned as the foundation of governance that is transparent, accountable, participatory, responsive, effective, efficient, and grounded in the rule of law. The dependent variable is Regional and Urban Planning (Y), reflecting planning quality in terms of technical feasibility, interdocument consistency, regulatory compliance, stakeholder engagement, budgetary and scheduling accuracy, and sustainability. The research instrument is a closed-ended questionnaire constructed from the operational indicators of each variable, consisting of six items for X1, seven items for X2, and seven items for Y. All items use a five-point Likert scale; positive statements are scored 5–1 from "Strongly Agree" to "Strongly Disagree," while negative statements are reverse-scored 1–5.

Data collection is carried out through a literature review to build the theoretical foundation, direct observation to capture organizational context and actual procurement/planning practices, and a questionnaire survey administered to all respondents. The collected data are checked for completeness and consistency, then coded, tabulated, and cleaned. Descriptive statistics—including range, mean, median, mode, and standard deviation—are presented to contextualize the distribution prior to instrument and hypothesis testing. Item validity is examined using item–total (product-moment) correlations with the criterion that the calculated r exceeds the critical r at a minimum 95 percent level of significance. Reliability is assessed using Cronbach's alpha, with a threshold of > 0.70 indicating adequate internal consistency.

Inferential analysis employs linear regression. Partial significance tests (t-statistics) evaluate the effect of each independent variable on the dependent variable; the first hypothesis tests the effect of X1 on Y and the second tests the effect of X2 on Y, with the decision rule to reject H0 if the calculated t exceeds the critical t. A simultaneous significance test (F-statistic) assesses the joint effect of X1 and X2 on Y, with H0 rejected if the calculated F exceeds the critical F. Interpretation of results is based on regression coefficients, significance levels, and the direction of effects, and is complemented by descriptive statistics to gauge the practical significance of the findings. The validity of the conclusions is reinforced through total sampling, alignment between operational definitions and indicators, and rigorous instrument testing. The principal limitations lie in the cross-sectional design, which constrains long-term causal inference, and the potential for perception bias inherent in self-reported data; these are mitigated through standardized survey procedures and measurement consistency.

4. Results and Discussion

4.1.1 Overview of Research Objects

The object of the research is the Simalungun Regency Regional Secretariat as a supporting element for regional heads/deputy regional heads in policy formulation and administrative coordination across regional apparatus. The focus of the research is directed at how the implementation of e-purchasing through LPSE contributes to the realization of the principle of good governance and supports the quality of regional and urban planning. In recent years, e-purchasing has been adopted as part of the digital transformation to increase the openness, accountability, and efficiency of local government procurement. The findings in this section place the Regional Secretariat as a strategic coordination node so that the procurement process supports the direction of development that is transparent, participatory, effective, and efficient.

4.1.2 Respondent Description

The research involved 41 Regional Secretariat employees who were directly involved in procurement and/or planning. The technique used is total sampling. The main characteristics of the respondents refer to Table 4.1 (p. 3), namely: (a) gender is dominated by men (27 people) with women 14 people; (b) age range of 30–55 years with concentration at age 41–50 years; (c) education is predominantly S1 (21 people), followed by S2 (9), D3 (7), and high school (4); and (d) the working period is mainly 5-10 years (16 people) and 11-20 years (15 people). This composition describes the profile of experienced apparatus and has gone through the phases of bureaucratic reform and procurement digitalization, so it is relevant to assess the performance of e-purchasing and the implementation of good governance.

4.1.3 Validity and Reliability Tests

The validity test was performed using Pearson correlation. The matrix in Table 1 shows a very strong and significant correlation at the level of 1% between variables: e-purchasing is very highly correlated with regional and urban planning ($r \approx 0.999$; $p < 0.01$), good governance is also very highly correlated with planning ($r \approx 0.982$; $p < 0.01$), and strong correlation between e-purchasing and good governance ($r \approx 0.978$; $p < 0.01$). This result confirms that the instrument items in each construct are able to represent the concept measured in a mass.

Table 1. Correlation Table

Correlations

		epurchasing	good_governance	Perencanaan_wilayah_dan_kota
epurchasing	Pearson Correlation	1	.978**	.999**
	Sig. (2-tailed)		.000	.000
	N	41	41	41
good_governance	Pearson Correlation	.978**	1	.982**
	Sig. (2-tailed)	.000		.000
	N	41	41	41
Perencanaan_wilayah_dan_kota	Pearson Correlation	.999**	.982**	1
	Sig. (2-tailed)	.000	.000	
	N	41	41	41

**. Correlation is significant at the 0.01 level (2-tailed).

The reliability of the instrument was tested with Cronbach's Alpha coefficient. Table 2 reports an Alpha of 0.991 for the three items analyzed, well above the 0.70 threshold, so the instrument is rated to be very consistent and reliable.

Case Processing Summary

		N	%
Cases	Valid	41	100.0
	Excluded[a]	0	.0
	Total	41	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.991	3

Table 2. Reliability Test Results

The Case Processing Summary showed 41 valid cases (100%) with no missing data, closing the potential for calculation distortion due to missing values. With very high reliability, there is no indication of any grains that weaken the internal consistency.

4.1.4 Regression Assumption Test (Residual Normality)

The residual normality assumption is tested through a standard residual histogram. Visually the distribution follows a normal (bell-shaped) curve that is symmetrical around zero; numerically the mean residual ≈ 1.37E-14 (≈ 0) and the standard deviation was 0.975 with a total of 41 cases. There are no annoying extreme outliers. Thus, the assumption of normality is met, allowing inference of regression parameters (coefficient, p-value, and confidence interval) to be validly carried out. The fulfillment of this assumption strengthens the validity of the t and F tests in the estimated regression model.

4.1.5 Multiple Linear Regression Analysis

Multiple linear regression analysis was used to test the influence of e-purchasing (X_1) and good governance (X_2) on regional and urban planning (Y). The results of the Model Summary (Table 2) show R Square = 0.999 and Adjusted R Square = 0.999 with a Standard Error of the Estimate = 0.127. The value shows that 99.9% of the variation on Y is explained together by X_1 and X_2; only the remaining 0.1% is influenced by factors other than the model. Simultaneous significance test (ANOVA) yielded F(2, 38) = 18,712,641; p = 0.000 (< 0.05), indicating that the model as a whole is significant and worthy of use. In practical terms, the combination of digitizing procurement (e-purchasing) and applying good governance principles simultaneously contributes significantly to improving the quality of regional and urban planning.

Partial Influence (t-test and Coefficient). The regression coefficient confirms the contribution of each predictor: e-purchasing (X_1) has an unstandardized coefficient B = 0.883 with SE = 0.025; t = 35.929; p = 0.000. Standardized beta coefficient = 0.886. This means that an increase of one unit at X_1 is followed by an increase of 0.883 units at Y (ceteris paribus). This very strong significance shows that e-purchasing plays a dominant role as a dominant predictor in the model. Good governance (X_2) has B = 0.143 with SE = 0.030; t = 4.697; p = 0.000 and standardized beta = 0.116. Although the contribution is smaller than X_1, the influence of X_2 remains significant and positive on Y. The constant (intercept) is −0.166 with p = 0.325 (insignificant), so it does not hold substantive significance in policy interpretation. Overall, both X_1 and X_2 have a positive and partially significant effect on Y. E-purchasing provides a boost to the efficiency, transparency, and traceability of the procurement process; Meanwhile, good governance ensures that the principles of openness, accountability, and public participation are inherent in the planning cycle.

4.1.6 Residual Statistics and Model Fit

A summary of residual statistics on SPSS outputs (pp. 15–17) shows a residual mean = 0.000 and a residual standard deviation = 0.124, indicating a small prediction error and a normal spread. The residual range ranges from −0.350 to 0.611, still within reasonable limits. The predicted value was in the range of 24.03–34.80 with an average of around 29.49, in line with the low standard error of estimate (0.127) in the model summary. The residual normality and small standard deviation indicate an excellent model fit and minimal estimation bias, so that statistical conclusions can be accounted for.

4.1.7 Substantive Implications of Findings

Empirical findings affirm that the digitization of procurement through e-purchasing is the main lever for improving the quality of regional and urban planning. The dominance of X_1 is reflected in the highest standardized beta value (0.886) and a very large t. Operationally, e-purchasing simplifies the supplier selection process, strengthens documentation, accelerates the procurement cycle, and reduces the opportunity for budget irregularities through transparency of transaction data. This efficiency effect leads to more timely, evidence-based planning (because procurement data is well recorded), and more in sync with regional development priorities.

On the other hand, good governance—although the coefficient is smaller—remains significant and provides an ethical-normative foundation for planning practices. The

principles of openness, accountability, fairness, and public participation minimize agency problems, increase stakeholder trust, and strengthen the legitimacy of resource allocation decisions. In other words, e-purchasing provides structure and speed, while good governance ensures that planning processes and results remain inclusive, fair, and auditable. Both are complementary: strengthening one aspect without the other has the potential to result in efficiency without accountability, or accountability without efficiency drive.

Substantively, this study concludes that strengthening e-purchasing—supported by organizational culture and digital infrastructure—has a real impact on the efficiency and quality of regional development planning. At the same time, the internalization of good governance is a requirement for the planning process to remain accountable, transparent, and oriented to the public interest. The integration of the two is an operational prerequisite for local governments to realize adaptive, evidence-based, and sustainable regional and city planning.

5. Conclusion

Based on the results of the research, it can be emphasized that the implementation of the e-purchasing system in the Simalungun Regency Regional Secretariat has made a real contribution to the fulfillment of the principles of good governance. Electronic-based procurement mechanisms make processes more open, documented, and easy to audit, thereby strengthening transparency, accountability, and efficiency which are pillars of good governance. In the context of regional institutions, e-purchasing is placed as a strategic instrument that connects procurement functions with planning needs, while limiting the space for deviations through complete data trails and wider public access to procurement information. The descriptive findings of the study also show that good governance values such as openness, participation, and fairness have been adequately internalized in procurement practices, acting as an ethical-normative foundation that directs policy processes to remain oriented to the public interest. These findings are in line with the description that the principle of good governance strengthens the implementation of digital systems in procurement and planning through increased participation and policy accountability.

Causally, the influence of e-purchasing on the quality of regional and urban planning proved to be very significant and dominant: the non-standardized coefficient of 0.883 with t = 35.929 and the standardized beta of 0.886 showed that each increase in the implementation of e-purchasing was followed by an improvement in the quality of planning, assuming other variables were constant. Meanwhile, good governance also has a positive and significant effect although it is not as dominant as e-purchasing, which means that governance values remain a substantive prerequisite for effective and fair planning. Simultaneously, the two variables explained almost all the variation in planning quality (R^2 = 0.999) and passed the model feasibility test through ANOVA with F = 18,712,641; p = 0.000. Thus, e-purchasing and good governance are two complementary components: e-purchasing provides an efficient and documented process structure, while good governance ensures integrity, accountability, and participation in planning. The integration of the two results in a more effective, efficient, and sustainable development planning process, and

strengthens the healthy linkage between procurement functions and regional development policy formulation

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