



Bridging Policy–Implementation Gaps in Building Permit Reform: Collaborative Governance and Digital Service Transformation for Sustainable Local Revenue Enhancement

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ABSTRACT

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The reform of building permit policy in Indonesia through the Building Approval (PBG) system is intended to improve regulatory compliance, service efficiency, and sustainable local revenue generation, yet its implementation in Sidenreng Rappang Regency remains constrained by institutional, technical, and social challenges. This study aims to identify implementation gaps and formulate collaborative governance strategies to strengthen digital building permit services and enhance sustainable local revenue within the Sidenreng Rappang Regency government. The research employs a qualitative approach using a Focus Group Discussion (FGD) based on the GROW (Goals, Reality, Options, Will) model, involving key stakeholders from local government agencies, legislative bodies, professional associations, academia, and private sector representatives. The findings reveal that while PBG reform targets simplified access, affordability, and increased local revenue, its realization is hindered by limited public understanding, complex digital requirements within the SIMBG system, high consultancy costs, insufficient professional experts, weak supervision, and the absence of effective enforcement mechanisms. Based on these findings, the study recommends strengthening collaborative governance through structured socialization and mentoring, the establishment of a multi-agency task force (SATGAS), the development of standardized prototype building designs, reinforcement of professional and enforcement capacities, and sustained policy commitment to ensure effective digital transformation and long-term sustainability of local revenue systems.

1. INTRODUCTION

Urban development governance plays a crucial role in achieving Sustainable Development Goals (SDGs), particularly in rapidly urbanizing regions where land use control, building safety, and fiscal sustainability are closely interconnected [1, 2]. Building permit systems are widely recognized as key regulatory instruments to ensure orderly spatial development, legal certainty, and public safety, while simultaneously serving as an important source of local government revenue [3, 4]. In many developing countries, reforms in building permit policies have been introduced to simplify procedures, improve compliance, and strengthen public service delivery through digitalization [5, 6]. However, empirical evidence consistently shows that regulatory reform alone does not automatically translate into effective implementation, especially at the local government level.

Previous studies on building permit reforms highlight the growing adoption of digital platforms to enhance transparency, efficiency, and accountability in urban governance [7-9]. Research from various contexts indicates

that e-permitting systems can reduce processing time, minimize discretionary practices, and improve data integration for planning and monitoring purposes [10-12]. Nevertheless, comparative studies also reveal persistent challenges, including limited institutional capacity, low digital literacy among users, resistance to organizational change, and inadequate coordination among implementing agencies [13-16]. These findings suggest that technological solutions must be accompanied by governance and capacity-building measures to achieve sustainable outcomes.

In the Indonesian context, the transition from the traditional building permit (IMB) to the Building Approval (PBG) system represents a major policy shift aligned with national regulatory reform and digital government agendas [17, 18]. The introduction of the SIMBG platform aims to standardize procedures, improve compliance with spatial and building standards, and enhance local revenue generation in a more transparent manner. Several studies have examined the legal framework and technical aspects of PBG implementation, emphasizing its potential to streamline services and support sustainable urban planning [19, 20]. However, emerging

empirical evidence indicates that local governments continue to face substantial implementation barriers that undermine these policy objectives.

Existing literature further points out that the effectiveness of building permit systems is strongly influenced by stakeholder engagement and collaborative governance arrangements [21, 22]. Studies on urban service delivery stress the importance of coordination among local government agencies, professional associations, private consultants, and communities in reducing non-compliance and informal development [23, 24]. Inadequate socialization, high consultancy costs, limited availability of certified professionals, and weak enforcement mechanisms have been identified as recurring issues in several regions [25, 26]. These challenges demonstrate that building permit reform is not merely a technical or administrative issue, but a complex governance process requiring collective action.

While governance-oriented studies have provided valuable insights, most previous research relies on policy analysis, surveys, or case studies that focus on outcomes rather than structured problem-solving processes [27-30]. Limited attention has been given to participatory diagnostic approaches that systematically capture stakeholders' goals, current realities, alternative solutions, and implementation commitments. In this regard, the GROW (Goals, Reality, Options, Will) model-widely applied in organizational development and coaching-offers a structured framework to guide collective reflection and decision-making. Its application in public sector policy evaluation, particularly in urban planning and digital service reform, remains relatively underexplored in the academic literature.

Furthermore, studies on local revenue sustainability tend to examine fiscal instruments in isolation, without sufficiently linking regulatory implementation performance to long-term revenue resilience. Research often measures revenue outcomes quantitatively, while overlooking the qualitative institutional and behavioural factors that shape compliance and service effectiveness. As a result, the relationship between collaborative governance, digital transformation of permit services, and sustainable local revenue generation remains insufficiently conceptualized and empirically grounded, especially in the context of developing countries undergoing rapid regulatory reform.

In this study, the concept of sustainable local revenue refers not merely to short-term increases in local government income, but to the long-term capacity of local governments to generate stable, predictable, and administratively efficient own-source revenue (Pendapatan Asli Daerah/PAD) through consistent regulatory compliance and effective governance systems. Sustainable local revenue therefore encompasses several interconnected dimensions: (1) fiscal continuity, reflected in stable and recurring revenue streams from legally compliant building activities; (2) administrative sustainability, referring to the ability of local institutions to manage licensing processes efficiently through digital systems such as SIMBG; (3) compliance-based revenue resilience, which emphasizes the role of transparent regulation, enforcement credibility, and public trust in maintaining long-term revenue generation; and (4) governance sustainability, which links revenue performance to collaborative institutional capacity and adaptive policy implementation. Within the context of PBG reform, sustainable local revenue is thus conceptualized not simply as revenue growth, but as the creation of an integrated governance ecosystem capable of supporting durable fiscal

performance, regulatory legitimacy, and sustainable urban development over time.

Based on the above review, this study addresses a clear research gap by integrating collaborative governance analysis with a structured GROW-based Focus Group Discussion (FGD) to examine the implementation of the PBG system in Sidenreng Rappang Regency. Unlike previous studies that focus on regulatory design or technological aspects alone, this research provides an in-depth stakeholder-driven assessment of implementation barriers and solution pathways, explicitly linking digital service transformation to sustainable local revenue outcomes. The research gap lies in the limited empirical application of the GROW model to analyse building permit reform through collaborative governance lenses and its implications for sustainable local revenue generation within urban and regional planning contexts.

This study specifically focuses on the implementation of the PBG system in Sidenreng Rappang Regency, South Sulawesi Province, Indonesia. Sidenreng Rappang Regency was selected as the case study area because it represents a developing district-level local government currently undergoing institutional and digital administrative transition in building permit governance. The regency has experienced increasing infrastructure and residential development activities while simultaneously facing limitations in technical capacity, inter-agency coordination, and digital service readiness. These characteristics make Sidenreng Rappang Regency a relevant empirical setting for examining the implementation gaps between national PBG reform objectives and local governance realities. The administrative scope of the study includes district-level agencies directly involved in PBG governance, including licensing, spatial planning, public works, and revenue-related institutions, as well as external stakeholders such as professional associations, academics, and private consultants participating in the local permitting ecosystem.

2. RESEARCH METHOD

This study adopts a qualitative, exploratory research design to examine the implementation of the PBG system as part of digital public service transformation and sustainable local revenue governance. A qualitative approach is considered appropriate given the complex institutional, regulatory, and socio-technical nature of building permit reforms, which cannot be fully captured through quantitative indicators alone. Similar methodological choices have been employed in urban governance and sustainable development studies to explore policy implementation dynamics, stakeholder interactions, and institutional barriers [3, 7, 27]. In line with recent studies published in the *International Journal of Sustainable Development and Planning*, this approach allows for an in-depth understanding of governance processes underlying digital transformation and planning practices [5, 6].

The empirical case examined in this study is Sidenreng Rappang Regency, located in South Sulawesi Province, Indonesia. As a district-level local government, Sidenreng Rappang Regency provides an important context for analysing the implementation of Indonesia's PBG reform within a developing regional administrative setting. The case was purposively selected due to its ongoing transition toward digital licensing services through the SIMBG platform and the emerging challenges associated with institutional

coordination, professional capacity, and public adaptation to new regulatory requirements. The study focuses specifically on the administrative and governance processes related to building permit implementation at the regency level, rather than provincial or national policy formulation. This clearly defined case boundary enables contextual interpretation of the findings and facilitates comparison with other studies on PBG implementation in Indonesian local governments.

The primary data collection method used in this research is a FGD, which facilitates interactive, multi-perspective analysis among key stakeholders involved in the PBG implementation process. FGDs have been widely used in urban planning and policy studies to capture shared experiences, institutional perceptions, and collective problem-solving processes [21, 22]. Compared to survey-based or document-driven methods commonly found in legal and policy analyses of PBG [17, 18], the FGD approach enables deeper exploration of coordination failures, governance gaps, and practical constraints faced by implementing actors.

The FGD in this study was structured using the GROW (Goals, Reality, Options, Will) model as an analytical and facilitative framework. The GROW model guides participants to systematically articulate policy objectives (Goals), diagnose current implementation conditions (Reality), identify feasible solution pathways (Options), and formulate concrete commitments for action (Will). While previous studies on digital governance and e-permitting systems tend to rely on technical frameworks or system design models [10–12], this study extends the methodological repertoire by integrating a structured participatory problem-solving model that emphasizes collective learning and implementation readiness.

In this study, the GROW model was not used merely as a discussion sequence, but as the primary analytical framework guiding both data collection and thematic coding. During the FGD process, participant statements were systematically categorized into four analytical domains corresponding to the GROW structure: Goals referred to stakeholders' expected policy outcomes and long-term aspirations regarding PBG reform; Reality captured existing institutional, technical, and socio-administrative constraints affecting implementation; Options represented proposed strategies, innovations, and collaborative solutions to overcome identified barriers; while Will reflected institutional commitment, implementation readiness, and perceived feasibility of sustaining reform efforts. The coding process was conducted iteratively by grouping participant narratives according to these four domains and then identifying recurring sub-themes within each category. This framework enabled the analysis to move beyond conventional descriptive thematic interpretation by linking stakeholder aspirations, implementation barriers, solution pathways, and institutional commitment into a coherent governance transition process. Consequently, the GROW model facilitated a process-oriented understanding of policy implementation dynamics, allowing the study to capture not only "what problems exist," but also how stakeholders collectively interpret reform objectives, negotiate alternative solutions, and assess implementation readiness within the context of collaborative digital governance.

Participants in the FGD were selected using purposive sampling to ensure representation of key stakeholder groups relevant to PBG governance. These included local government agencies responsible for spatial planning and licensing, legislative representatives, professional associations, private sector consultants, academics, and community-related actors.

This multi-stakeholder composition aligns with collaborative governance perspectives emphasized in smart governance and sustainable urban development literature [9, 20, 28]. Unlike single-institution case studies, this approach captures inter-organizational dynamics and competing professional jurisdictions that influence permit implementation outcomes [25, 26].

The FGD process was conducted in Makassar City, South Sulawesi Province, Indonesia, as the selected case study area for examining local-level implementation of the PBG system. A total of 21 participants were purposively selected to ensure balanced representation across key stakeholder groups directly involved in PBG governance and implementation. The participants consisted of representatives from the local government licensing office, spatial planning agency, public works office, regional revenue agency, legislative representatives, professional associations of architects and engineers, private consultants, contractors, academics, and community representatives. Selection criteria required that participants have direct involvement in PBG administration, technical implementation, supervision, or service utilization, with a minimum of three years of professional or institutional experience. To maintain sectoral balance and improve the credibility of perspectives, the sample included managerial-level officials, technical staff, professional practitioners, and non-governmental actors. The FGD was conducted in two separate sessions, each lasting approximately 2.5–3 hours, moderated by the research team using a semi-structured discussion guide based on the GROW (Goals, Reality, Options, Will) framework. All discussions were audio-recorded with participant consent, supplemented by detailed field notes and session summaries to enhance data reliability and analytical transparency. The moderation process emphasized equal participation, clarification of divergent views, and iterative validation of key findings during the discussion process to improve the credibility and transferability of the results.

Data analysis was conducted through thematic qualitative analysis, following iterative coding and categorization of FGD transcripts and discussion summaries. Themes were derived inductively from participant narratives and deductively aligned with key dimensions of digital governance, regulatory compliance, collaborative capacity, and local revenue sustainability. This analytical strategy is consistent with qualitative governance studies examining barriers and drivers of digital transformation in public services [8, 13, 16]. Compared to systematic literature reviews or spatio-temporal quantitative analyses [1, 6], this study prioritizes contextual depth over generalizability.

To enhance analytical rigor, the findings were interpreted through comparative reflection with existing empirical and conceptual studies on building permit systems, smart urban governance, and policy implementation challenges. This comparative orientation allows the study to situate local PBG implementation issues within broader international debates on e-governance adoption, coordination failures, and sustainable planning outcomes [14, 15, 19]. By doing so, the research avoids purely descriptive analysis and contributes to theory-informed discussion relevant to sustainable development planning.

Overall, the methodological contribution of this study lies in combining a GROW-based FGD framework with collaborative governance analysis to examine digital building permit reform in a developing country context. Unlike prior

studies that focus predominantly on regulatory design, technological infrastructure, or legal compliance, this research emphasizes stakeholder-driven diagnostics and implementation commitments. This methodological integration addresses a gap in the existing literature by demonstrating how structured participatory methods can support sustainable digital transformation and local revenue enhancement within urban and regional planning systems.

Although this study primarily adopts a qualitative exploratory design, indicative quantitative proportions are used to support analytical clarity and illustrate the relative prevalence of stakeholder perspectives emerging during the FGD process. The percentages reported in the Results and Discussion section do not represent statistical measurements or survey outcomes, but rather the proportion of participants who expressed agreement, concern, or support regarding specific themes during the discussions. These proportions were derived through thematic coding and frequency identification of participant responses across the two FGD sessions. Since participants were allowed to express agreement with multiple issues simultaneously, the reported percentages should be interpreted as indicative qualitative frequencies rather than mutually exclusive quantitative variables. This approach is consistent with qualitative governance and policy studies that combine thematic interpretation with descriptive numerical indications to improve transparency and comparative readability without claiming statistical generalizability.

To improve analytical transparency, all percentage values presented in the tables are based on the proportion of FGD participants ($n = 21$) who expressed similar views, concerns, or recommendations during the discussions. Multiple responses were allowed because participants frequently addressed more than one issue within a single discussion sequence. Therefore, the percentages should not be interpreted as mutually exclusive statistical categories, but rather as indicative qualitative frequencies reflecting recurring stakeholder perspectives. The “observed impacts” reported in the tables represent interpretative thematic syntheses derived from participant narratives, moderator observations, and iterative coding processes conducted by the research team. To further strengthen credibility, representative participant statements and coding examples are included within the discussion to illustrate how key themes and analytical categories were generated from the FGD data.

During the coding process, participant statements were first transcribed and grouped according to the four GROW domains. Subsequently, open coding was applied to identify recurring concepts, which were then clustered into broader governance-related themes such as institutional coordination, technical barriers, enforcement capacity, collaborative mechanisms, and implementation readiness. This iterative coding process enabled analytical triangulation between participant narratives, thematic frequencies, and governance interpretation.

To ensure analytical traceability and methodological rigor, the study employed a structured qualitative analysis protocol consisting of transcription, iterative coding, memoing, thematic clustering, and interpretative verification. All FGD sessions were transcribed verbatim immediately after data collection and reviewed alongside field notes to preserve contextual meaning. Initial open coding was conducted by identifying recurring concepts and statements related to governance challenges, digital implementation barriers,

stakeholder coordination, enforcement capacity, and institutional commitment. These initial codes were subsequently organized into higher-order thematic categories aligned with the GROW framework domains (Goals, Reality, Options, and Will). Analytical memos were developed throughout the coding process to document emerging interpretations, relationships among themes, and researcher reflections regarding stakeholder dynamics and institutional interactions. To improve coding consistency and reduce interpretative bias, the coding outputs and thematic categorizations were independently reviewed and cross-checked by two members of the research team through iterative discussion and reconciliation of coding differences. This process enabled stronger alignment between raw participant narratives, thematic interpretation, and the analytical claims presented in the study.

3. RESULTS AND DISCUSSION

This section presents and discusses the findings derived from the GROW-based FGD to examine the implementation of the PBG system within the context of digital public service transformation and sustainable local revenue governance. The results are structured according to the sequential stages of the GROW model—Goals, Reality, Options, and Will—to ensure analytical coherence between empirical evidence and the research framework. The GROW framework also served as the basis for thematic coding and interpretation, enabling the analysis to systematically connect stakeholder expectations, implementation realities, proposed interventions, and institutional commitment within a unified governance perspective. The analytical claims presented in this section were derived through iterative coding, thematic clustering, memoing, and inter-coder verification procedures to ensure traceability between participant narratives and governance interpretations. Qualitative insights from stakeholder interactions are complemented by indicative quantitative proportions to enhance analytical clarity and comparability with previous studies on urban governance, e-permitting, and sustainable development planning. The discussion critically situates the findings within the broader body of international literature, highlighting both convergences and contextual specificities of PBG implementation in developing country settings. These proportions refer to the frequency of participants expressing similar views or concerns during the FGD discussions and are presented only as indicative qualitative tendencies rather than statistical findings.

3.1 Stakeholder goals in Building Approval reform: Alignment with sustainable development and local revenue objectives

The FGD results indicate that stakeholders share a relatively strong consensus regarding the strategic goals of the PBG reform, particularly in its contribution to sustainable urban development, regulatory compliance, and local revenue enhancement. Participants emphasized that PBG is designed not only as a licensing instrument, but also as a planning control mechanism to ensure building safety, spatial conformity, and environmental responsibility. This orientation reflects the broader role of planning instruments in managing urban growth and balancing development pressures with sustainability objectives, as highlighted in studies on urban growth management and land-use regulation [2, 3]. The

convergence of planning control and fiscal objectives within PBG positions it as a multifunctional policy tool rather than a purely administrative requirement.

From a quantitative perspective, approximately 80% of FGD participants identified sustainable local revenue (PAD) enhancement as a primary objective of PBG implementation, indicating strong fiscal expectations attached to the reform. In addition, around 70% of participants emphasized service efficiency, transparency, and accountability through the SIMBG digital platform as equally critical goals. This dual emphasis supports findings by Chen et al. [1], who argue that policy instruments contributing to the SDGs often pursue interconnected economic, institutional, and governance outcomes simultaneously. Similar patterns have been observed in smart governance and digital public service reforms, where efficiency gains and fiscal sustainability are pursued in parallel rather than sequentially [5, 9].

However, the FGD discussions also reveal that goal alignment at the policy level does not necessarily translate into operational effectiveness. Several participants cautioned that without adequate institutional capacity, professional support, and enforcement mechanisms, the intended sustainability and revenue benefits of PBG may remain aspirational. This observation is consistent with empirical findings from Greece and other developing contexts, where urban planning reforms exhibit strong normative alignment with sustainability goals but face persistent implementation challenges [2, 19]. The gap between strategic intent and practical realization underscores the need to examine governance arrangements and stakeholder readiness, reinforcing arguments in the literature that policy success depends as much on implementation conditions as on goal formulation itself [7, 27].

The distribution of stakeholder perceptions regarding PBG reform objectives is summarized in Table 1, which illustrates the relative prioritization of sustainability, revenue, service efficiency, and regulatory compliance goals identified during the FGD.

Table 1. Stakeholder perceptions of primary goals of Building Approval (PBG) reform

No.	Identified Policy Goals	Percentage of Participants
1	Sustainable local revenue (PAD) enhancement	80%
2	Service efficiency and transparency via SIMBG	70%
3	Improved regulatory compliance and building safety	65%
4	Reduction of informal construction practices	60%
5	Support for sustainable urban and spatial planning	55%

Note: Percentages represent the proportion of FGD participants (n = 21) expressing similar views or concerns during the discussion. Multiple responses were allowed; therefore, percentages do not total 100%. The observed implications and impact categories represent thematic interpretations derived from iterative qualitative coding of participant narratives.

3.2 Reality of implementation: Institutional, technical, and social barriers

Despite the shared strategic objectives identified in the previous section, the “Reality” stage of the GROW-based FGD reveals significant challenges that constrain the effective implementation of the PBG system. Institutional

fragmentation emerged as the most frequently cited barrier, particularly weak coordination among licensing offices, spatial planning agencies, and supervisory institutions. More than 65% of participants reported that overlapping mandates and unclear authority boundaries contribute to procedural delays and inconsistent decision-making. These findings are consistent with studies highlighting coordination failures as a major obstacle to effective urban governance and public service delivery in developing contexts [14, 23]. Similar institutional misalignments have been observed in smart governance initiatives where formal structures exist but operational collaboration remains limited [7, 27].

Technical barriers related to the SIMBG platform constitute another critical dimension of implementation challenges. Participants reported difficulties in system usability, incomplete or inconsistent data inputs, and limited interoperability with spatial, cadastral, and population databases. These issues mirror international experiences in e-permitting and digital governance systems, where technological deployment often advances faster than institutional adaptation and technical capacity development [8, 10, 11]. Quantitatively, approximately 60% of FGD participants indicated that technical constraints directly affect service efficiency and discourage compliance, reinforcing arguments that digital tools alone cannot guarantee governance effectiveness without adequate system integration and user support [9, 15].

Social barriers further compound institutional and technical constraints, particularly in terms of public awareness, digital literacy, and perceived complexity of PBG procedures. Participants noted that limited understanding of regulatory requirements and high reliance on intermediaries increase the risk of informal construction and permit avoidance. This observation aligns closely with empirical findings from Ghana and Bangladesh, where low regulatory literacy and limited access to digital services have been identified as key drivers of non-compliance [22, 24]. From a planning perspective, these social barriers underscore the importance of inclusive governance approaches that integrate capacity-building and community engagement into digital reform strategies, as emphasized in studies on sustainable and socially responsive urban governance [16, 19].

Table 2. Key implementation barriers in Building Approval (PBG) reform identified through GROW-based FGD

No.	Barrier Category	Key Issues Identified	Percentage of Participants
1	Institutional	Overlapping mandates, weak inter-agency coordination	65%
2	Technical	SIMBG usability, data completeness, system integration	60%
3	Social	Low public awareness, limited digital literacy	55%
4	Regulatory Enforcement	Inconsistent supervision and sanction mechanisms	50%
5	Capacity and Resources	Limited technical staff and budget constraints	45%

Note: Percentages represent the proportion of FGD participants (n = 21) expressing similar views or concerns during the discussion. Multiple responses were allowed; therefore, percentages do not total 100%. The observed implications and impact categories represent thematic interpretations derived from iterative qualitative coding of participant narratives.

One participant from the local licensing authority stated that “many applicants still depend heavily on intermediaries because the SIMBG procedures are considered technically difficult and confusing for first-time users.” Similarly, a representative from the professional association emphasized that “institutional coordination remains fragmented, especially when permit verification involves multiple agencies with overlapping responsibilities.” These statements illustrate how technical and institutional barriers were consistently perceived across stakeholder groups and subsequently coded under the “Reality” domain of the GROW framework.

The relative significance of institutional, technical, and social barriers identified during the FGD is summarized in Table 2, which provides a comparative overview of stakeholder perceptions and their alignment with findings from previous studies.

3.3 Professional capacity constraints and cost implications

One of the most critical issues identified during the FGD relates to the limited availability and uneven distribution of certified building professionals required under the PBG regulatory framework. Participants emphasized that the requirement for specialized technical documentation and expert validation has significantly increased dependence on professional consultants. Approximately 60% of stakeholders noted that the shortage of qualified experts directly leads to higher consultancy costs, particularly affecting small-scale residential applicants. This condition reflects long-standing challenges in professional capacity development in emerging economies, where regulatory expansion is not always matched by human resource readiness [26].

Beyond numerical shortages, the FGD revealed structural imbalances in professional capacity across regions and project scales. Certified experts are predominantly concentrated in urban centres, leaving peripheral and rural areas underserved. As a result, applicants in less-developed areas face higher transaction costs and longer processing times, which discourages formal compliance. Similar spatial and institutional disparities in professional availability have been reported in studies of planning regulation enforcement and construction sector development in Africa and Southeast Asia [22, 24]. These findings indicate that professional capacity constraints are not merely technical issues, but also spatial and equity-related governance concerns.

The discussion further highlighted that regulatory reforms such as PBG may unintentionally reinforce professional monopolies and jurisdictional dominance. This phenomenon aligns with the institutional analysis by Covaleski et al. [25], which shows how new regulatory regimes can consolidate expert authority and marginalize non-professional actors. In the PBG context, participants expressed concern that mandatory expert involvement limits flexibility for small and incremental developments, creating barriers to entry for low-income households. Such dynamics undermine the inclusiveness of planning systems and weaken public trust in regulatory institutions.

The distribution of professional capacity constraints and their cost implications identified during the FGD is summarized in Table 3, illustrating how different dimensions of capacity limitations affect applicants and implementation outcomes.

In contrast, studies from developed contexts emphasize the role of automation, standardization, and model-based e-

permitting systems in reducing professional dependency and transaction costs [10, 12]. However, the FGD findings suggest that digital transformation in Indonesia has not yet achieved these efficiency gains due to the absence of complementary human resource strategies, standardized building prototypes, and simplified approval pathways. Without addressing professional capacity constraints, digital PBG implementation risks exacerbating inequality, reducing compliance rates, and ultimately weakening both planning effectiveness and sustainable local revenue generation [15, 19]. This highlights the need for integrated policy interventions that align regulatory requirements, digital systems, and professional development.

Table 3. Professional capacity constraints and cost implications in Building Approval (PBG) implementation

No.	Identified Constraint	Observed Impact on PBG Implementation	Percentage of Participants
1	Limited number of certified professionals	Increased consultancy costs	60%
2	Uneven regional distribution of experts	Delays and higher access barriers in peripheral areas	55%
3	Mandatory expert involvement for small-scale projects	Reduced compliance among low-income applicants	50%
4	Lack of standardized building prototypes	Repetitive design costs and inefficiency	45%
5	Insufficient professional training programs	Low adaptability to digital PBG requirements	40%

Note: Percentages represent the proportion of FGD participants (n = 21) expressing similar views or concerns during the discussion. Multiple responses were allowed; therefore, percentages do not total 100%. The observed implications and impact categories represent thematic interpretations derived from iterative qualitative coding of participant narratives.

3.4 Governance gaps and weak enforcement mechanisms

The FGD discussions clearly indicate that governance gaps and weak enforcement mechanisms remain a major impediment to the effectiveness of the PBG system. Participants emphasized that although regulatory provisions formally exist, their practical enforcement is inconsistent and often reactive. Approximately 55% of participants identified weak enforcement as the primary driver of persistent informal construction practices, particularly in residential and small-scale developments. This finding is consistent with empirical studies in Ghana and other developing contexts, which highlight that regulatory compliance is strongly influenced by enforcement credibility rather than regulatory complexity alone [22, 24].

A central issue raised during the FGD relates to limited post-approval monitoring capacity. Participants noted that supervisory activities are often constrained by insufficient personnel, limited budgets, and unclear institutional mandates. As a result, violations frequently go undetected or unaddressed, weakening deterrence effects. Similar capacity-related enforcement gaps have been reported in urban governance studies examining coordination failures and

institutional fragmentation [21, 23]. These findings suggest that enforcement weaknesses are not isolated administrative problems but reflect broader governance capacity constraints.

From a governance perspective, the results support critiques of technocratic approaches to digital governance that prioritize system deployment over institutional accountability and social legitimacy. While the SIMBG platform enhances procedural transparency, participants emphasized that digital traceability alone does not ensure compliance without consistent regulatory follow-up. This observation aligns with arguments by Jiang et al. [27], who caution against “smartness” narratives that overlook power relations, enforcement authority, and participatory legitimacy in urban governance. The PBG case demonstrates that digital tools must be embedded within accountable governance structures to be effective.

The FGD also revealed challenges in inter-agency coordination related to enforcement responsibilities. Overlapping roles between licensing bodies, spatial planning agencies, and local enforcement units often result in fragmented responses to violations. This lack of horizontal coordination mirrors findings from studies on multi-stakeholder governance failures, where unclear division of labour undermines policy implementation [28, 30]. Participants stressed that without clearly defined enforcement protocols and coordination mechanisms, digital permitting reforms risk becoming symbolic rather than transformative.

Table 4. Governance gaps and enforcement challenges in Building Approval (PBG) implementation

No.	Identified Governance and Enforcement Issues	Observed Impact on PBG Effectiveness	Percentage of Participants
1	Inconsistent application of sanctions	Low deterrence against non-compliance	55%
2	Limited post-approval monitoring capacity	Undetected or unresolved violations	50%
3	Weak inter-agency coordination in enforcement	Fragmented and delayed enforcement actions	45%
4	Unclear enforcement mandates and responsibilities	Institutional overlap and accountability gaps	40%
5	Lack of graduated and proportional sanction mechanisms	Reduced public trust and regulatory legitimacy	35%

Note: Percentages represent the proportion of FGD participants (n = 21) expressing similar views or concerns during the discussion. Multiple responses were allowed; therefore, percentages do not total 100%. The observed implications and impact categories represent thematic interpretations derived from iterative qualitative coding of participant narratives.

Finally, participants highlighted the absence of graduated and proportionate sanction mechanisms as a critical weakness of the current PBG enforcement regime. Sanctions are perceived as either too weak to deter violations or inconsistently applied across cases, eroding public trust in regulatory institutions. This condition resonates with broader literature on governance challenges in implementing disruptive technologies for sustainability, which emphasizes

that legitimacy and fairness are essential for long-term compliance [19, 20]. Addressing these governance gaps requires not only regulatory refinement but also institutional strengthening and collaborative enforcement arrangements.

A participant from the local government sector noted that “violations often continue because monitoring capacity is limited and enforcement actions are inconsistent across cases.” Another participant highlighted that “digital systems can improve transparency, but without field supervision and institutional commitment, compliance problems will persist.” These recurring narratives were categorized under enforcement inconsistency, institutional fragmentation, and governance capacity limitations during the coding process.

The key governance gaps and enforcement challenges identified through the FGD are summarized in Table 4, illustrating their relative prevalence and perceived impact on PBG effectiveness.

3.5 Options identified: Collaborative governance and digital service optimization

In the “Options” phase of the GROW model, participants articulated a set of solution pathways that emphasize collaborative governance as a means to address institutional, technical, and social barriers identified in previous sections. A key proposal is the establishment of a multi-agency task force (SATGAS) involving licensing authorities, spatial planning agencies, enforcement units, professional associations, and academic institutions. Participants viewed SATGAS as a coordination mechanism to harmonize roles, streamline decision-making, and improve accountability across the PBG implementation process. This approach aligns with collaborative governance models that emphasize cross-sector coordination and shared responsibility in smart urban governance [7, 28].

Another prominent option highlighted during the FGD is the intensification of socialization and public engagement programs. Participants stressed that continuous and targeted outreach is necessary to improve regulatory understanding, reduce dependence on intermediaries, and enhance voluntary compliance. Approximately 70% of participants supported structured socialization combined with mentoring schemes for applicants, particularly small-scale developers and households. These findings are consistent with studies on digital public service adoption, which emphasize that user-centred engagement and capacity-building are critical success factors in e-governance initiatives [9, 16].

Digital service optimization emerged as a complementary strategy to governance collaboration. Participants proposed improving SIMBG usability, enhancing system interoperability, and providing dedicated technical assistance units to support applicants. Such recommendations mirror international experiences in e-permitting systems, where process simplification and system standardization have been shown to reduce transaction costs and processing times [10, 11]. However, unlike purely technical optimization models, participants emphasized that digital improvements must be embedded within institutional reform to avoid reinforcing existing governance gaps, echoing critiques of technocratic digitalization approaches [20, 27].

A particularly strong consensus emerged around the development of standardized prototype building designs as a cost-reduction and accessibility strategy. Quantitatively, over 75% of participants supported this option, citing its potential

to reduce design and consultancy costs, especially for small-scale residential projects. This finding reflects similar practices in standardized permitting systems implemented in Canada and the United States, where predefined design templates facilitate faster approvals and reduce professional dependency [11]. The alignment between planning instruments and digital platforms reinforces arguments that strategic planning tools can significantly enhance implementation efficiency when integrated with digital governance systems [6].

Several participants emphasized collaborative governance as the most feasible solution pathway. One academic participant stated that “the establishment of a multi-agency task force is necessary to reduce sectoral fragmentation and improve coordination.” Likewise, a representative from the professional sector argued that “standardized prototype designs could significantly reduce consultancy costs for small-scale applicants.” These responses were coded within the “Options” category as collaborative institutional strategies and administrative simplification mechanisms.

Finally, participants highlighted the importance of institutionalizing collaborative mechanisms to ensure long-term sustainability of PBG reform. Short-term initiatives, such as ad hoc task forces or pilot projects, were viewed as insufficient without formal mandates, budgetary support, and performance monitoring frameworks. This concern resonates with broader literature on sustainable governance, which emphasizes that collaborative arrangements must be embedded within formal institutional structures to endure beyond political cycles [5, 30]. The options identified during the FGD thus underscore the need for integrated governance, digital optimization, and planning instruments to translate policy intent into sustainable implementation outcomes.

Table 5. Proposed options for improving Building Approval (PBG) implementation through collaborative governance and digital optimization

No.	Proposed Options	Intended Improvement Outcomes	Percentage of Participants
1	Establishment of multi-agency task force (SATGAS)	Improved coordination and accountability	80%
2	Intensified socialization and public mentoring	Increased awareness and voluntary compliance	70%
3	Optimization of SIMBG usability and interoperability	Reduced processing time and user errors	65%
4	Development of standardized building prototypes	Lower consultancy costs and faster approvals	75%
5	Institutionalization of collaborative mechanisms	Long-term sustainability of PBG reform	60%

Note: Percentages represent the proportion of FGD participants (n = 21) expressing similar views or concerns during the discussion. Multiple responses were allowed; therefore, percentages do not total 100%. The observed implications and impact categories represent thematic interpretations derived from iterative qualitative coding of participant narratives.

The range of collaborative and digital optimization options identified through the FGD is summarized in Table 5,

highlighting their perceived effectiveness and level of stakeholder support.

3.6 Will and commitment: From policy intent to sustainable implementation

The “Will” stage of the GROW-based FGD reveals notable variations in institutional commitment to translating proposed solutions into sustained implementation. Senior-level officials generally expressed strong normative support for collaborative governance mechanisms and digital service optimization, viewing PBG reform as strategically aligned with broader development and fiscal objectives. However, this high-level commitment was not uniformly reflected at the operational level, where implementers highlighted practical constraints related to staffing, technical capacity, and workload. This divergence between strategic intent and operational readiness reflects common patterns observed in public sector reform processes [13, 15].

Resource availability and budgetary certainty emerged as central determinants of implementation commitment. Approximately 50% of participants questioned the sustainability of reform efforts in the absence of long-term budget allocations and political endorsement beyond annual planning cycles. Participants emphasized that many reform initiatives remain dependent on short-term projects or external support, making them vulnerable to leadership changes and shifting priorities. Similar challenges have been widely documented in studies on digital transformation and policy implementation in developing country contexts, where institutional inertia and resource constraints often impede scaling and continuity [13, 15].

The FGD also highlighted that commitment is closely linked to incentive structures and performance accountability within implementing institutions. Operational actors expressed concern that additional responsibilities associated with collaborative mechanisms and digital optimization are not adequately recognized or rewarded. This observation aligns with findings from governance and organizational studies indicating that reform success depends not only on formal mandates but also on alignment between institutional incentives and reform objectives [14, 25]. Without such alignment, policy initiatives risk remaining symbolic rather than operationally embedded.

Comparative insights from smart governance and strategic planning literature emphasize that sustained commitment requires adaptive governance structures capable of learning and adjustment over time. Studies demonstrate that long-term success in digital and planning reforms is associated with institutionalized coordination mechanisms, continuous capacity-building, and feedback loops that connect policy outcomes to decision-making processes [5, 6]. The PBG case reinforces this perspective by illustrating that digital service transformation must be supported by stable organizational arrangements and continuous institutional learning to generate durable planning and fiscal outcomes.

Finally, the FGD results suggest that building institutional “will” is an iterative process rather than a one-time decision. Participants emphasized the need for clear implementation roadmaps, measurable milestones, and transparent monitoring frameworks to maintain momentum and accountability. These findings resonate with broader governance literature on sustainable reform, which underscores the importance of political leadership, administrative continuity, and

institutional trust in sustaining policy implementation [19, 30]. Strengthening commitment across institutional levels is therefore critical to ensuring that PBG reform moves beyond policy intent toward long-term, sustainable implementation.

The distribution of stakeholder perceptions regarding institutional commitment and implementation readiness identified during the FGD is summarized in Table 6, highlighting key factors influencing the transition from policy intent to sustained action.

Table 6. Institutional commitment and implementation readiness factors in Building Approval (PBG) reform

No.	Commitment-Related Factors	Observed Implications for Implementation	Percentage of Participants
1	Strong normative support at senior leadership level	Policy alignment without full operational translation	65%
2	Limited operational capacity and resources	Slowed or partial implementation	55%
3	Uncertain long-term budgetary support	Risk of reform discontinuity	50%
4	Misaligned incentive and performance systems	Low motivation among implementers	45%
5	Lack of clear implementation roadmap and milestones	Weak monitoring and accountability	40%

Note: Percentages represent the proportion of FGD participants (n = 21) expressing similar views or concerns during the discussion. Multiple responses were allowed; therefore, percentages do not total 100%. The observed implications and impact categories represent thematic interpretations derived from iterative qualitative coding of participant narratives.

3.7 Implications for sustainable development and planning

Overall, the results demonstrate that the PBG reform operates at the intersection of digital transformation, collaborative governance, and sustainable development planning. The integration of qualitative insights from the GROW-based FGD with indicative quantitative proportions enables a nuanced understanding of how policy intentions translate into practice. Unlike studies that focus primarily on legal compliance or administrative restructuring, this research highlights the central role of governance processes and stakeholder interactions in shaping implementation outcomes [17, 18]. This perspective reinforces the argument that sustainable development planning requires attention not only to regulatory frameworks but also to institutional and social dynamics.

The findings confirm that digital transformation in public services is not a purely technical exercise but a socio-institutional process embedded within existing governance structures. While digital platforms such as SIMBG improve transparency and procedural standardization, their effectiveness depends on institutional coordination, professional capacity, and user readiness. Similar conclusions have been drawn in studies on smart urban governance and digital public service delivery, which emphasize that technological tools must be complemented by organizational

learning and governance adaptation to achieve sustainable outcomes [7, 9, 19]. In this regard, the PBG case illustrates the risks of over-reliance on technocratic solutions without parallel governance reform.

From a planning perspective, the results highlight the importance of aligning regulatory instruments with long-term sustainability and revenue objectives. The strong emphasis placed by stakeholders on sustainable local revenue generation underscores the fiscal dimension of planning policies, which is often underexplored in sustainability discourse. Consistent with studies examining the interlinkages between urbanization, planning instruments, and the SDGs, the findings demonstrate that planning effectiveness is closely tied to implementation capacity and enforcement credibility [1, 2]. Weak enforcement and professional capacity constraints can undermine both planning control and fiscal sustainability.

The application of collaborative governance mechanisms emerges as a critical implication for sustainable development planning. The proposed establishment of multi-agency task forces, intensified socialization, and structured mentoring reflects a shift from hierarchical regulation toward more inclusive and cooperative governance models. This shift aligns with broader trends in urban governance literature that emphasize co-production, stakeholder engagement, and collective problem-solving as pathways to sustainable planning outcomes [28, 30]. The PBG experience suggests that collaborative arrangements are particularly relevant in complex regulatory environments where multiple actors influence compliance and implementation.

The use of the GROW model as an analytical and facilitative framework has important methodological implications for planning practice. By structuring stakeholder dialogue around goals, current realities, options, and commitments, the GROW approach enables systematic identification of implementation gaps and feasible solution pathways. While previous planning studies often rely on outcome-based evaluations or technical assessments, this study demonstrates the value of process-oriented and participatory methods in diagnosing governance challenges [14, 27]. Such approaches can enhance reflexivity and learning within planning institutions.

The findings also carry implications for social equity and inclusion in planning systems. Professional capacity shortages and high consultancy costs disproportionately affect small-scale and low-income applicants, increasing the risk of informal development. This dynamic echoes findings from studies in developing contexts that link regulatory complexity and enforcement gaps to unequal access to formal planning systems [22, 24]. Addressing these equity concerns through standardized designs, capacity-building, and targeted support mechanisms is essential to ensuring that digital planning reforms contribute to inclusive sustainable development.

Finally, the PBG case underscores the importance of sustained political commitment and institutional continuity in achieving long-term planning and development outcomes. Without stable governance frameworks, adequate resources, and aligned incentives, digital and regulatory reforms risk stagnation or reversal. This conclusion is consistent with governance and sustainability literature emphasizing that durable policy impacts depend on institutionalization rather than episodic reform efforts [15, 20]. As such, the implications of this study extend beyond the PBG system, offering broader lessons for sustainable development planning in contexts undergoing rapid digital and regulatory transformation.

4. CONCLUSIONS

This study concludes that the implementation of the PBG system represents a critical policy instrument positioned at the intersection of digital transformation, collaborative governance, and sustainable development planning. While stakeholders share a strong alignment on the strategic goals of PBG—particularly in improving regulatory compliance, service efficiency, and sustainable local revenue generation—significant implementation gaps persist at the institutional, technical, and social levels. Fragmented governance structures, limited professional capacity, weak enforcement mechanisms, and uneven digital readiness collectively constrain the effectiveness of PBG reform. In this context, sustainable local revenue should be understood as the long-term ability of local governments to maintain stable, compliance-based, and administratively efficient revenue streams through effective digital governance and collaborative institutional arrangements. The application of the GROW-based FGD framework reveals that policy success is shaped not only by regulatory design but also by governance quality, stakeholder commitment, and operational capacity, underscoring the importance of process-oriented and participatory approaches in planning practice.

Based on these findings, the study recommends strengthening collaborative governance through the institutionalization of multi-agency coordination mechanisms, supported by clear mandates, adequate resources, and consistent enforcement frameworks. Digital service optimization should be pursued alongside human resource development, standardized building prototypes, and continuous capacity-building to reduce compliance costs and improve accessibility, particularly for small-scale applicants. Furthermore, sustained political commitment, long-term budgeting, and performance-based accountability systems are essential to ensure that PBG reform moves beyond policy intent toward durable implementation. By integrating governance reform with digital innovation, local governments can enhance planning effectiveness, promote inclusive compliance, and achieve sustainable local revenue outcomes in the long term.

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APPENDIX

A. FGD coding framework and analytical traceability

The qualitative analysis followed a multi-stage analytical procedure to ensure traceability between participant statements and thematic findings. First, all FGD recordings were transcribed verbatim and reviewed together with moderator notes and observational summaries. Second, participant statements were grouped according to the four analytical domains of the GROW framework: Goals, Reality, Options, and Will. Third, open coding was conducted to identify recurring concepts and institutional issues emerging from the discussions. Fourth, similar codes were clustered into broader governance themes through iterative thematic comparison and memoing. The coding structure used in this study is summarized below (Table A1):

Table A1. Coding framework and analytical traceability for the focus group discussion

GROW Domain	Initial Codes	Thematic Category	Analytical Interpretation
Goals	PAD increase, service efficiency, transparency	Sustainable local revenue and governance reform	PBG viewed as both fiscal and governance instrument
Reality	SIMBG complexity, weak coordination, low literacy	Institutional and technical barriers	Governance fragmentation constrains implementation

Options	SATGAS, prototype designs, mentoring	Collaborative governance strategies	Multi-actor coordination needed for reform effectiveness
Will	Budget limitations, staffing constraints, political commitment	Institutional readiness and sustainability	Long-term reform depends on organizational commitment

Throughout the analysis, analytical memos were used to document emerging patterns, stakeholder disagreements, and relationships between governance dynamics and implementation outcomes. Coding consistency was strengthened through iterative cross-checking and discussion among members of the research team.