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A Review on Issues and Challenges in Planning Application System Delivery from Selected Literatures

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A Review on Issues and Challenges in Planning Application System Delivery from Selected Literatures

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Abstract. The approval of a Planning Application is a mandatory requirement enforced by Local Authorities before developers can proceed with any proposed project. This approval process is a critical step in ensuring that development proposals align with regulatory standards and community interests. However, obtaining Planning Application approval has emerged as a significant challenge within the construction sector, a concern that has been widely discussed on a global scale. Recent studies highlight growing dissatisfaction and frustration among industry professionals and stakeholders, who express negative feedback towards the inefficiencies and delays in the Planning Application system delivery service. This paper aims to investigate the underlying issues and challenges associated with the Planning Application system, drawing from an extensive review of thirty-five selected literature sources. The research adopts a clustering technique philosophy to systematically categorize the problems identified. By utilizing a benchmarking methodology, the study extracted and analyzed nearly 150 elements that represent the key issues and challenges as discussed by scholars and professionals in the field. The findings of this study reveal a broad spectrum of challenges that are recurrent across different regions and contexts. These challenges have been classified into four primary components: Governance, which includes the regulatory and policy framework governing planning applications; Administration, Organization, and Management, which encompasses the procedural and managerial aspects of the application process; Human Capacity and Skills, highlighting the competencies and expertise of personnel involved; and Technology and Infrastructure, focusing on the technological tools and systems that support the planning application process. In conclusion, the study provides a comprehensive overview of the critical factors that hinder the effective delivery of Planning Application systems, offering insights that could inform future reforms and improvements in the process.

Keywords: Construction, Project Development, Planning Application System Delivery

1. Introduction

Planning Application is a submission of development plan proposal by Qualified Person to Local Authority for grant an approval prior execution stage. Project development at real estate sector should be obtaining all the planning approval in accordance with the relevant authorities before any physical work can begin on site (Chin, 2016). According to (Bashir, 2018) Planning Application is a building permit or license that grants legal permission to start construction of a building project. A developer must obtain all planning approvals before any physical work can commence on site and prior to issuance



of any advertising permit by the relevant authorities (Abdullah et al., 2011). It is a mandatory for developers to obtain the Planning Application approval before can proceed with construction stages. However, the issues and challenges in obtaining the planning approval is among a crucial topic been discussed globally until get the World Bank attention to study and recommend pertaining the matter.

2. Impact of Population Growth on Housing and Infrastructure Demand

The growth of the world population has led to an increased demand for housing, infrastructure, and commercial buildings. It is crucial to ensure that development projects are delivered on time, as delays can lead to social problems and slow economic growth. To manage these projects effectively, they must go through a series of phases known as the Project Life Cycle (PLC), which consists of four stages: initiation, planning, execution, and closure. A critical task within the PLC is obtaining approval from local authorities for the project development proposal. The Planning Application process involves submitting a development plan proposal by a Qualified Person to the local authority for approval before the execution stage can begin.

3. Challenges in the Planning Approval Process

There are several reasons why planning approvals can take longer than expected. One of the most debated issues is the complexity of requirements and the volume of documents needed for submission (Firdaus, 2013). The delay is not solely the fault of the planning department but also involves other related technical departments (Ibrahim Mohd @ Ahmad, 2012). Time and procedural requirements are significant "regulatory impediments" that affect the success of the property development sector (Marzukhi, 2019).

In Malaysia, the Planning Application system is heavily regulated, with about 50 rules and regulations governing the process. Local governments often introduce multiple procedures or costly requirements for obtaining permits (M & Hakim, 2020). Furthermore, the involvement of stakeholders from diverse backgrounds and with differing interests adds complexity to the Planning Application process. This complexity has resulted in significant and increasing delays in processing new applications for construction (Shahi, 2018).

Incomplete document submissions can cause further delays in the approval process (Bashir, 2018). In some instances, plans and drawings must be resubmitted due to required amendments (Marzukhi, 2019). Disputes in construction planning permit applications often arise from developers' misinterpretations of local councils' plans, regulations, or guidelines (Wong & Maric, 2016, via Goldblum and Wong 2000; Awakul and Ogunlana 2002). Moreover, Principal Submitting Persons (PSP) have sometimes submitted applications with inadequate documents, further dragging the application process into delays (Marzukhi, 2019). The PSP's lack of understanding of process requirements and OSC procedures is another contributing factor to delays (Bashir, 2018). The PSP must be informed of the time limitations and expected timeframes for each process (Marzukhi, 2019). Additionally, some external agencies liaise directly with the PSP without referring to the OSC department, complicating the process further (Bashir, 2018).

Stakeholders have expressed negative feedback regarding the efficiency of the planning application system delivery. Inefficiency and delays are global issues, and governments have taken proactive measures to improve system delivery, aiming to make the process faster, more efficient, and less prone to delays. Literature suggests that initiatives such as reforming regulations and acts, eliminating unnecessary laws, and amending existing laws are necessary. Streamlining and simplifying processes are also among the enhancement programs implemented.

In Malaysia, the government introduced the One Stop Center (OSC) to facilitate improvements in system delivery. With the advent of digital technologies, some countries have reformed their entire system delivery by adopting digital platforms as a single point of contact.

4. Challenges with Online Submission Portals

However, there are still issues, such as the failure to maintain an effective and reliable online submission portal (Firdaus, 2013). As a result, local authorities and technical departments often prioritize hard copy submissions for faster processing. The challenge arises when hard copies are still required even after online submission (Ismail et al., 2022). Open data sharing among technical departments is essential for a successful digital planning application service.

Another recommendation is to enable easy information sharing between departments to compile paperwork efficiently (Kamaruddin, 2020). Open data-sharing protocols can expedite the planning process. However, weaknesses in the OSC Online System have led the public to resort to alternative means to check the status of their submissions (Kamaruddin, 2020). Some local authorities have yet to adopt online submission, necessitating more hard copy submissions than stated in the OSC 3.0 Plus manual (Ismail et al., 2022).

Despite continuous initiatives by governments to improve system delivery, issues in the planning application process remain unresolved. Scholars suggest that these challenges persist because the enhancement programs are not comprehensively approached. Identifying the main causes of these problems and implementing effective solutions is critical. Thoroughly identifying the issues and challenges in the planning application system delivery will provide additional information and useful references for future improvements.

5. Clustering Process

The aim of the study is to identify issues and challenges in planning application system delivery. To achieve this, literature review has been conducted and analysis using (Anil K et al., 1996) clustering method concept has been adopted.

High impact literature from various areas of discussion is very crucial in ensure a significance finding can be achieved. 35 selected literatures have been selected that cover abroad discussion pertaining planning application system delivery and relevant with discussion topics. Table 1.0 below summarized the 35 selected literature. The literature has been searched via Google search and Google Scholar, JSTOR, ScienceDirect Journal, Scopus, SpringerLink Journal, IEEEExplore Digital Library, UTM e- thesis and journal database. The authors range from students, steering committees, private company, government department and world organization like World Bank. These selections offered a combination point of view and context and broadened the horizon of the exploration. The keywords in identifying the literature range from construction permit, planning permission, planning application, permitting system, development permit system, e-permit system, e-submission, digital permit and development approval.

Figure 1.0 below shows the stage of clustering process using Jain et al philosophy. Figure 2.0 shows dendrogram using single-link algorithm. Figure 3.0 shows a functional knowledge in clustering technique. A benchmarking technique has been conducted to find a specific character, elements in distributed knowledge in selected literature.

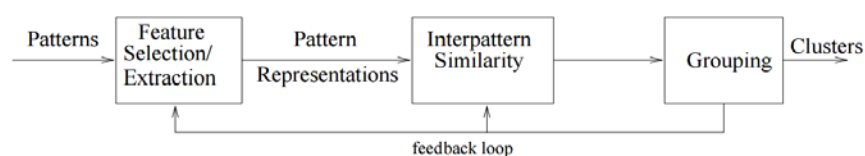


Figure 1. Stages in clustering (Anil K et al., 1996)

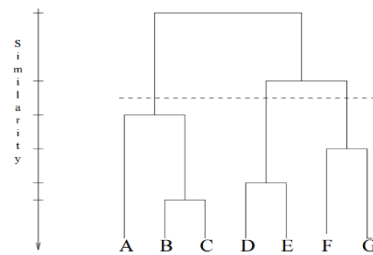


Figure 2. The dendrogram obtain using single-link algorithm (Anil K et al., 1996)

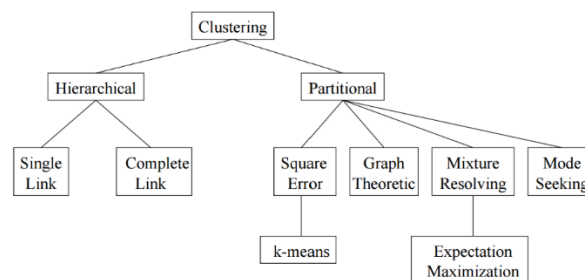


Figure 3. Functional knowledge (Anil K et al., 1996)

After the elements has been identified and extracted from literature, they will be grouped according to their character/ behavior/ function/ purpose. Each cluster will be examined to determine their theme.

6. Result and Discussion

From the content analysis, the elements found in the literature summarized in Table 2.0 below. There are 34 elements has been found in the literatures. Table 3.0 described the number or literature that cited each of the elements found.

Table 1. Summary of literature discussed Planning Application process

| Literature | Title | Reference |
|------------|--|---------------------------|
| R1 | Good Practices for Construction Regulation and Enforcement Reform | (World Bank, 2013) |
| R2 | Requirements for establishing an information system to manage issuing building permits. | (Wahed, 2017) |
| R3 | GIS and development control system for a local authority in Malaysia | (Yaakup et al., 2003) |
| R4 | A building permit system for smart cities: A cloud-based framework. | (Eirinaki et al., 2018) |
| R5 | Modernizing Building Approvals in Ontario: Catching Up with Advanced Jurisdictions, | (Lynn Duong, 2017) |
| R6 | A Practical Conceptual Enhancement Model For The Development Proposal Approval Process | (Chin, 2016) |
| R7 | Development controls in the Offinso South municipality, | (Boamah, 2014) |
| R8 | One Stop Centre (OSC): Lesson on Best Practice In Planning System Delivery | (Marzukhi, 2019) |
| R9 | Streamlining the Planning Approval Process for a Sustainable Urban Development – A Case Study for Unwinding Manmade Complexities | (Ibrahim & Kweku, 2018) |
| R10 | Streamlining The Municipal Development Review Process Current Guide of Municipalities’ Best Practices January 23, 2020 | (AMO, 2020) |
| R11 | The Effectiveness of Building Plan Approval. Case Study: Subang Jaya Municipal Council, Selangor | (Marzukhi & Jaafar, 2019) |

| | | |
|-----|---|---|
| R12 | Delay in Construction Permit for Local Government – A Malaysian Experience | (M & Hakim, 2020) |
| R13 | Dealing with Construction Permits - Malaysia's Case Study. Seminar on the First Steps of Successful Reform in Doing Business Taipei | (Dealing with Construction Permits-Malaysia's Case Study, n.d.) |
| R14 | Are The Challenges in the Processing OF Building Permits A Precursor for Development of Illegal Structures in Ghana? | (Stephen Agyeman et al., 2016) |
| R15 | Analysis of Errors in Investors' Applications in The Procedure of Obtaining A Building Permit | (Leśniak et al., 2019) |
| R16 | Dealing with Construction Permits: Implications for the Colombian Case | (Páez & Vargas, n.d.) |
| R17 | Construction Permits and Flow of Projects within the Sunyani Municipality, Ghana | (Kpamma & Adjei-Kumi, 2013) |
| R18 | A study of optimizing the Processing time for Building permits Study Case: Tyresö municipality | (Alizadeh & KARBOM, 2012) |
| R19 | OCSO in Malaysia | (Penny Goh, Md Nasir Daud, Hasniyati Hamzah, 2014) |
| R20 | Digitalize Building Permits Procedure: Canton of Valais, Switzerland. Georgia | (Kourakou & Glassey, 2015) |
| R21 | Reforming Construction: Permit Approval in Muscat | (INSEAD, 2013) |
| R22 | Electronic building permission system: The case of Greece | (Bellos et al., 2015) |
| R23 | Building Permission e-Service Status: A Literature Review Conference Paper | (Anthopoulos et al., 2014) |
| R24 | eBPS: Electronic Building Permit System | (De Lima-Omorog et al., 2019) |
| R25 | Analysing The Effect of Building Permit Issuance on The Housing Delivery System in Ghana | (Hammah & Ibrahim, 2014)brahim, Rahinah |
| R26 | The Building Plan Approval Process for Residential Development in One Sop Centre Case Study: Subang Jaya Municipal Council, Selangor | (Azyyati Marzukhi et al., 2018) |
| R27 | GIS in Development Control Process: The Case of Development Control System for City Hall of Kuala Lumpur | (Johar et al., 2007) |
| R28 | The BIM-Based Building Permit Process: Factors Affecting Adoption | (Ullah et al., 2022) |
| R29 | Implementation of OSC 3.0 and overview and issues on the ground | (Thirilogachandran, 2017) |
| R30 | Improvement of Construction Permit Process Approval at Local Government in Malaysia | (Bashir, 2018) |
| R31 | Digitalisation of the building permit process - a case study in Italy | (Fauth et al., 2022) |
| R32 | Conceptual Framework for Building Permit Process Modelling: Lessons Learned from a Comparison between Germany and the United States regarding the As-Is Building Permit Processes | (Fauth & Soibelman, 2022) |
| R33 | Integrating Expertise and Ambitions for Data-Driven Digital Building Permits- The EUNET4DBP | (Noardo et al., 2020) |
| R34 | Malaysia's Housing Planning Approval: Rent-seeking Behaviours | (Ali et al., 2018) |
| R35 | Questionable Practice in the Processing of Building Permits in Norway | (Wold et al., 2019) |

Table 2. Extraction of issues and challenges elements found in Planning Application process.

| Item | Issues/Challenges | R 1 | R 2 | R 3 | R 4 | R 5 | R 6 | R 7 | R 8 | R 9 | R 0 | R 1 | R 1 | R 1 | R 1 | R 1 | R 2 | R 3 | R 4 | R 5 | R 6 | R 7 | R 8 | R 9 | R 0 | R 1 | R 2 | R 3 | R 3 | R 3 | R 3 | R 4 | R 5 |
|------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | complicated process/procedures/ many process/ many procedures/multiple task | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 2 | corruption/bribery/ rent seeking | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 3 | poor tracking system/ difficult retrieve data | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 4 | long processing time/ time consuming/ slow process | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 5 | delay | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 6 | financial constraint/ lack funding/limited resource/ support | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 7 | involve many stakeholder/ various stakeholder data | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 8 | lack transparency/accountability | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 9 | Lack coordination/ delegation/ cooperation | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 10 | Ineffective/ low productivity/irresponsive/inefficient /poor quality/working system/systematic | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 11 | conflict decision stakeholders/ different regulations/technical requirement interpretation | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 12 | too many pending application/excessive workload | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 13 | shortage officer/officer reshuffle | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 14 | too many regulations/complicated legislation/inadequate legislation | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 15 | Unreasonable/burden requirements/too many technical conditions | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 16 | lack comprehensive framework | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 17 | unclear process/ responsibility/overlapping procedures | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 18 | unstandardized | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 19 | lack competency/limited human potential | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 20 | refuse to change/attitude | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 21 | Inadequate/incomplete/missing documents/non compliance | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 22 | internet connectivity | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |

Table 4. Summary of issues and challenges extracted from selected literatures.

| Item | Issues/challenges | Cited | % |
|------|---------------------------|-------|-------|
| 1 | Complicated | 21 | 9.81 |
| 2 | Corruption | 7 | 3.27 |
| 3 | Data retrieve | 4 | 1.87 |
| 4 | Long processing time | 11 | 5.14 |
| 5 | Delay | 17 | 7.94 |
| 6 | Financial | 7 | 3.27 |
| 7 | Various stakeholders | 7 | 3.27 |
| 8 | Transparency | 9 | 4.21 |
| 9 | Coordination | 8 | 3.74 |
| 10 | Ineffective | 22 | 10.28 |
| 11 | Conflicts | 4 | 1.87 |
| 12 | Excessive workload | 2 | 0.93 |
| 13 | Shortage officer | 7 | 3.27 |
| 14 | Excessive regulations | 6 | 2.80 |
| 15 | Unreasonable requirements | 3 | 1.40 |
| 16 | Comprehensive framework | 2 | 0.93 |
| 17 | Overlapping | 5 | 2.34 |
| 18 | Unstandardized | 12 | 5.61 |
| 19 | Competency | 11 | 5.14 |
| 20 | Attitude | 8 | 3.74 |
| 21 | Noncompliance | 12 | 5.61 |
| 22 | Internet | 2 | 0.93 |
| 23 | Server | 3 | 1.40 |
| 24 | Data storage | 1 | 0.47 |
| 25 | Archive | 2 | 0.93 |
| 26 | Security | 4 | 1.87 |
| 27 | Authentication | 2 | 0.93 |
| 28 | Validity mechanism | 1 | 0.47 |
| 29 | Innovative | 9 | 4.21 |
| 30 | Functionality | 1 | 0.47 |
| 31 | Robust | 1 | 0.47 |
| 32 | Disruptive | 1 | 0.47 |
| 33 | Automation | 1 | 0.47 |
| 34 | Format | 1 | 0.47 |

6.1 Governance

Governance referring to how the planning application delivery system been drive by sets of law along with required control measures. Table 4.0 show the extracted issues and challenges that can be found in Governance. The study found most of literature discussed about standardization issues in obtaining planning application approval. Standardization is an ongoing and never-ending issues that faced by stakeholders and one of the crucial problems that need to solve.

The other issues has been found from literature is burden with too many regulations, legislation too complicated, unreasonable requirements, burden requirement, too many technical conditions, lack comprehensive framework, inadequate legislation, standard and policy e submission, different regulations interpretation, different technical requirement interpretation, unstandardized terminology, inconsistence procedure, overlapping procedures, different procedures, different process, unclear

process, inconsistent regulations, uncertain approval time, not standardize and not clear predefine responsibility.

6.2 Administration, Organization and Management

The administration and organization refer to the Local Authorities, technical departments, planning departments and other agencies and stakeholders' organization that involved along the planning approval processing. Management can be interpreting as how human and other resources been managed to accomplish a task in obtaining planning approval. The study found a dozen of issues has been cited by scholar that related with the administration, organization and management. The study found delay and complicated process is the most cited by scholar.

The study found many factor that affect to poor quality of services in planning application system delivery. The factor are complicated procedures, poor tracking system/ difficult retrieve data, manual works and involved with many processes and procedures. Other factor also crucial that need to give attention is multiple tasks, involve many stakeholders, various stakeholder data, poor quality of work, inefficient, lack transparency, low accountability, lack coordination/delegation/cooperation and ineffective. The scholar also discussed that among the issues are not systematic, outdated working system, irresponsive, low productivity, conflict decision stakeholders, high number permit submission, excessive workload, too many pending application, shortage officer and officer reshuffle.

However, there also have a serious issues discussed by scholar that related with work integrity which is a corruption/bribery and rent seeking. Motivational issues also found and discussed by scholar which is financial constraint/ lack funding, limited resources and lack of support either through moral, financial or materials.

6.3 Human Capacity

The third issues and challenges is derived from human behaviour and attitude. The issues has been discussed broadly in the literature. The issues has been discussed by scholar is limited human potential, employee attitude, lack understanding, lack experience, lack awareness, lack competency, refuse to adapt new technology, refuse to change, ICT implementation, training user, non compliance, inadequate documents, incomplete documents, missing documents, use unapproved documents, error submission, not prepare professionally and technical error.

6.4 Technology

The elements that calssified under this component is related with the technology can be decribed as an activity that required internet to accomplish the task such as electronic submission platform, online portal and digital application forms. Among the issues in this category is the internet connectivity and computer speed is slow. For non physical category has been discussed widely and the issues found limited data storage, archive system, security, authentication, authorization, biometrics, digital signature, verification challenges, mekanisme to check validity docs, end user experience, not user friendly, inadequate state of art, not innovative, functionality system, robustness system, disruptive application, automation process and uncommon electronic format.

7.0 Conclusion

This research has systematically identified and analyzed issues and challenges in the Planning Application process through a review of 35 carefully selected, high-integrity, and reputable sources. A rigorous filtering process was conducted to extract the most significant elements, ensuring that only critical issues and challenges were considered. The findings reveal that ineffectiveness is the most frequently cited challenge, while technology-related concerns—such as functionality, robustness, format, and automation—are among the least discussed in the literature.

To provide a structured understanding, these issues have been categorized into four key components based on their unique characteristics: (1) Governance-related issues, (2) Administration, Organization, and Management, (3) Human Capacity, and (4) Technology. Table 3 summarizes these components, offering a clear framework for understanding the interdependencies among these factors.

Building upon these findings, future research will focus on identifying the key components necessary for integration and developing a Digitalization Framework that enhances efficiency, transparency, and technological advancement in the Planning Application process.

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