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A Study on Manual Administrative Systems and Their Impact on Sustainable Service Delivery in Strata Management

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Abstract
This paper examines the continued reliance on manual administrative systems in strata residential properties across Klang Valley, despite the availability of digital alternatives. It explores how these traditional practices affect effective communication, service delivery, operational effectiveness, and overall resident satisfaction. Guided by the SERVQUAL framework, the research adopts a quantitative descriptive approach to assess five service quality dimensions in relation to resident satisfaction namely; Tangibles, Reliability, Responsiveness, Assurance, and Empathy. The findings reveal that Empathy, Tangibles, and Assurance significantly influence satisfaction, while Reliability and Responsiveness do not show a significant impact in manual settings. The study highlights key challenges such as delays, miscommunication, and administrative inefficiencies, emphasizing the need for digital transformation in strata management. Overall, it contributes to understanding service quality gaps and offers insights for improving administrative practices in line with sustainable urban development goals.

Keywords:
Strata Management, Manual administrative, SERVQUAL, Sustainable Service Delivery, Service Quality.

Introduction
Strata properties continue to rely on manual administrative processes such as in person service request or complain submissions, handwritten forms and physical notice boards which often result in delays, miscommunication, and resident dissatisfaction. Thus, this research aims to find out how these manual administrative systems are still effective in

this era of globalisation for strata management particularly focusing on low cost and middle cost residential properties across Klang Valley areas. In order to oversee the upkeep and administration of stratified residential developments, such as townhouses, condominiums, apartments, and landed properties in a shared growth and development, the Strata Management Act 2013 (SMA 2013) was introduced in 2013. To guarantee suitable, efficient, and continuous management of these properties, this act attempts to bring together the rights and obligations of inhabitants, landowners, and developers.

The Strata Management Act 2013 (SMA 2013) and the Strata Management Regulations 2015 (SMR 2015) provide a comprehensive legal framework for the maintenance and management of strata properties in Malaysia. The roles and responsibilities of key management bodies such as the Joint Management Body (JMB), Management Corporation (MC), Joint Management Committee (JMC), and Subsidiary Management Committee (SMC), has been outlined in these regulations, while also empowering the Commissioner of Buildings (COB) to oversee and enforce compliance. The rapid growth of strata development, especially in Klang Valley has aignificantly elevated the role of Joint Management Bodies (JMBs) and Management Corporations (MCs). These bodies are responsible of handling the administrative tasks inlcuding record keeping, issuing notices, managing resident complaints/ concerns and many more.

Literature Review

Many strata management systems continue to heavily rely on manual administrative systems despite the advancement in digital management tools such as cloud based platforms and mobile applications. Studies have showed that these methods lead to delays in communication, inefficiencies and reduced transparency. In order to live in strata-based properties, an effective communication and prompt service delivery are crucial to achieve the resident satisfaction. However, manual administration systems can slow down the responses and limit the clarity, which may escalate into strata disputes and operational issues. Implementing digital solution still remains low and inconsistent although few studies shows that effort to adopt digital solution has begun, especially in low to mid-range strata management systems, due to financial barriers, lack of technical resources, and resistance to adopt to changes among management personnel. Moreover, staff under the JMBs and MCs often overwhelmed by the administrative workload when relying strictly on manual systems. For example, physically copying documents, manually tracking forms, and door-to-door notice distribution activities. This will take up some time and yield low operational efficiency.
Existing studies highlighted that, managing bodies struggle with these burdens especially those in affordable strata developments such as low-cost and middle-cost, resulting in slower complaint resolution and inconsistent communication flow. Due to this, the ability of staff to engage proactively will reduce significantly.

This study investigates the continued use of manual systems in Klang Valley's strata properties and how they affect service delivery, communication efficiency,

and operational effectiveness. Manual administrative systems still remain common in many strata residential properties across Klang Valley. Exisiting studies on strata management for affordable housing in Klang Valley have highglighted residents' dissatisfaction with administrative systems, particularly highlighting issues such as poor service, ineffective maintenance, and operational lapses. Although modern version of strata developments moving towards adopting digital tools to enhance efficiency and communication, many Joint Management Bodies (JMBs) and Management Corporations (MCs) still operate under manual protocols due to the limited resources, finacial constraints and lack of technical knowledge. Minor operational problems and temporary disruptions such as lost forms, inconsistent logs of data and and lag in maintenance updates are among the many challnages associated with manual system. The unavailablity of real-time tracking, can lead inefficiency issues, especially when the management personnel are unavailable or overburdened with many tasks at the same time. For an instance, when a resident submits a written maintenance complaint, it might be delay of several days or even weeks before the relevant technical teams notified and able to make necessary actions. This may lead to delays in the rectification of maintenance related issues.

Therefore, it is evident that this outdated processes lead to delays, miscommunication, and inefficiencies that affect the quality of service delivery and subsequently lead to poor administrative practices. These issues do not just cause operational inefficiencies but also reduce residents' trust and satisfaction with the management bodies. Previous studies have highlighted that, reliance on physical noticeboards and in-person communication often contribute to miscommunication and provide limited accessibility to relevant informations. It is also found that residents often miss important updates like maintenance schedules or community meetings, leads to confusion or escalation of conflicts. This often occurs due to the reliance on "word-of-mouth" communication and inaccessible noticeboards information where notices may be placed in unused or rare used areas, or may be even removed or damaged. These manual systems also result in broader inefficiencies within the administrative operations of JMBs and MCs. For instance, repeated data entry, misplaced documents, and the excessive time spent managing paper-based records limit the ability of staff to focus on strategic improvements. Consequently, these causes not only increase in the operational cost but also reduce staff productivity due to inefficient workflows implemented by the management bodies.

In addition, in sufficient digital infrastructure, ICT expertise, and financial resources to support the transition to automated systems are seen as challanges in many MC's. Although digital tools are introduced, the adoption among management staff is stil limited. The absent of proper data and information centralisation, complicate the performance monitoring and thus leaving the strata developments to face persistent complaints, while the service quality remains unimproved. Traditionally, researched more focuses on the facilities maintenance, finacial management, and regulatory

compliance areas, leaving comparatively limitted studies on how manual administrative practices affect residents' experiences particularly in terms of communication and service delivery. Improvements in Management practice may remain ineffective, without detailed insight and accurate information to address these operational gaps. Therefore, there is a clear service quality gap between residents' expectations and the services delivered by management bodies. A study employing SERVQUAL framework in strata housings in Malaysia identified significant discrepancies in key dimensions such as responsiveness, reliability, and assurance. These findings reveal that manual administrative practices including paper-based complaints handling and delayed responses, fail to meet the expectations of residents in terms of timeliness and reliability. This means when residents expect quick resolutions or detailed feedback from the managing bodies, they often met with slow or incomplete responses, which result in decline of trust in JMB or MC. Furthermore, manual systems introduce heightened risks related to data loss and lack of accountability. For example, physical documents, maintenance records, and complaint logs that are stored without secure backups are more susceptible to misplacement, damage, and inconsistent tracking, further undermining effective service delivery and administrative reliability.

According to studies on evaluating administrative and facilities management in Malaysian strata schemes, buildings that rely on manual record-keeping system often reported to have frequent data inconsistencies and poor audit trails. This make it difficult to evaluate staff performance and management efficiency, while also hindering the tracings of complaint histories. Therefore, this study aims to examine the use of manual administrative systems in strata residential properties within Klang Valley and subsequently identify the challenges they encounter in communication and service delivery. Furthermore the study also aim to assess the influence of the manual administrative system on the overall operational efficiency and resident satisfaction in stratified properties.

Methodology

The findings reveal that integrating more effective, technology-driven administrative systems in strata management is crucial. While, previous research often focuses on facilities, financial management or legal issues, this study brings attention to everyday administrative practices and their direct impact on residents. Therefore it is crucial to highlight that this study contributes to underexplored areas of strata management such as the operational and service delivery aspects, by focusing on manual administrative systems in Klang Valley strata properties. Once understanding these factors, JMBs and MCs can identify inefficiencies and communication issues. This helps them switch to digital tools that answers residents' needs and reduce conflicts. Also, the findings are able to guide local authorities in designing guidelines for a more efficient strata administrative practices, contributing to Malaysia's broader push toward Sustainable Development Goals (SDG) as it focuses on global commitment towards sustainable, resilient and inclusive development.

The Ministry of Economy in the 11th Sustainable Development Goal (SDG) stated the Sustainable Cities and Communities, has aims to make cities and human settlements inclusive and safe. This goal addresses the challenges of rapid urbanisation and targets to create better cities for all residents. This study embraces the SERVQUAL model which was developed by Parasuraman (1988), to investigate how residents evaluate the service quality of manual administrative systems in strata properties particularly focusing on residential. Taking into consideration of the five core dimensions which are Tangibles, Reliability, Responsiveness, Assurance, and Empathy as the independent variables, whereas Resident Satisfaction with Administrative Services is the dependent variable. In the Malaysian context, this model is particularly relevant with real-world findings as they used SERVQUAL to assess managing bodies performance in strata housing schemes around Kuala Lumpur, uncovering significant service gaps.

A quantitative research design is being used for this research and specifically using a descriptive approach. Quantitative design is appropriate because it allows numerical measurement of residents' satisfaction with manual administrative procedures in strata management. As for the descriptive approach, it allows systematic collection and numerical data analysis to provide an accurate profile of residents' understandings. This approach is particularly useful when the main focus is to describe and evaluate service quality gaps in existing administrative processes, without manipulating any variables. Descriptive research helps to outline the patterns and relationships between service quality dimensions and satisfaction of the resident by using the structured questionnaires and statistical analysis. This will therefore provides actionable insights for the management.

Results

Cronbach's Alpha was being used in this research to assess the internal consistency of the questionnaire items. According to Nunnally (1978) and Sarstedt (2019), a value of 0.70 and above will indicate acceptable reliability for the variables. The results later indicated values ranged between 0.63 and 0.70 across six constructs. Values between 0.60 and 0.70 remain acceptable for exploratory studies and when constructs consists of a small number of items. Provided that each construct in this research involves only three items, and the acquired reliability values are considered adequate. Particularly, Tangibles ($\alpha = 0.64$), Reliability ($\alpha = 0.63$), and Resident Satisfaction ($\alpha = 0.68$) presented moderate internal consistency, whereas Responsiveness ($\alpha = 0.70$), Assurance ($\alpha = 0.70$), and Empathy ($\alpha \approx 0.70$) reached the conventional threshold. Overall, the measurement scales used in this study shows acceptable reliability to do further analysis. Multiple linear regression was used to evaluate the strength and significance of relationships between the independent variables (SERVQUAL dimensions) and the dependent variable (Resident Satisfaction). The regression model recorded an R^2 of 0.59, indicating that 59% of the variance in Resident Satisfaction is explained by the five SERVQUAL dimensions. The ANOVA results reveal that the

regression model is statistically significant ($F = 44.610$, $p < 0.05$), indicating that the predictors collectively influence Resident Satisfaction.

Variables	Beta Coefficient (β)	Significance Value (p-value)	Result	Interpretation
Tangibles	0.211	0.002	Significant	Clear notices, organised documents, and Professional adminstrative presentation positively influence resident satisfaction.
Reliability	0.041	0.560	Not significant	Accuracy and consistency alone do not significantly influence resident satisfaction in manual administrative settings.
Responsiveness	0.011	0.881	Not significant	Prompt actions and quick responses alone were insufficient to significantly affect satisfaction.
Assurance	0.213	0.004	Significant	Competent and knowledgeable management staff increase residents' trust and confidence.
Empathy	0.469	< 0.001	Significant	Personalised attention and courteous interaction strongly influence

				resident satisfaction.

Based on the regression analysis, Tangibles, Assurance, and Empathy were identified as signifcant predictors of Resident Satisfaction as their p-values were below the significance level of 0.05. Among all dimensions, Empathy has the strongest influence ($\beta = 0.469$, $p < 0.001$), indicating that personalised attention and respectful communication are hihgly valued by residents. In contrast, Reliability and Responsiveness did not show statistically significant relationships with Resident Satisfaction, suggesting that accuracy and promptness alone were insufficient in improving satisfaction within manual administrative environments.

For the VIF values for all of the dimensions ranged between 1.732 and 2.108, which are good as it is below the threshold of 5, confirming the absence of multicollinearity issues available among the independent variables. Overall, the regression model shows Empathy, Tangibles, Assurance as the key contributors to resident satisfaction with manual administrative systems.

Conclusion

The findings of this study were examined to link with the research objectives and hypotheses. Overall, the results received shows that not all the SERVQUAL dimensions presented equally to resident satisfaction with the administrative services in strata residential properties. The SERVQUAL dimensions which are Tangibles, Assurance and Empathy were found to have significant positive relationships with the resident satisfaction in relation to the hypotheses. On the other hand, Reliability and Responsiveness leads to rejection as it did not show significant influence to those hypotheses. These results follows with Parasuraman that suggested administrative communication, staff professionalism, and personalised attention are important factors that forms the residents' insight on service quality. The results confirm the applicability of the SERVQUAL framework in evaluating the manual administrative systems and highlight the areas where service quality gaps remain in strata residential properties. To conclude this research, it overall investigated on how these manual administrative practices affect service quality and resident satisfaction for the services in strata residential properties in Klang Valley which is the area in question. This study identified significant predictors of satisfaction with the guide from SERVQUAL framework. It also highlighted some areas where these services can be improved to be better. The findings from this study contribute to past studies, provides real-time perceptions for management bodies, and create a base for future studies that will be seeking to enhance strata administrative functions or the corresponding ones.