

The Challenges of Property Management Companies in Managing High-Rise Residential Buildings During Covid-19 Pandemic

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Abstract

The coronavirus disease 2019 (COVID-19) pandemic has evolved from a health crisis into a humanitarian and economic one. Besides, many industries are affected by this pandemic, including in the property field. This study intends to identify challenges faced by property management in three main aspects, which are social, economic and environmental when handling high-rise residential buildings during the COVID-19 pandemic. Eight (8) property management personnel (manager/executive) were interviewed online, and the results were analyzed using thematic analysis. The results show the property management companies face challenges, including maintenance fund collection, awareness of cashless payment methods, following the SOP guidelines, sanitization activities and social interaction among management and residents. Therefore, in this situation, the property management faced new experiences and needed to revise their strategies in facing any problems/situations in the future.

Introduction

The outbreak of severe acute respiratory syndrome (SARS) coronavirus-2 (SARS-CoV-2) in Wuhan, People's Republic of China, has affected the world. For ASEAN countries, there had 12,502,602 confirmed cases by Oct 9, 2021. COVID-19 in this region spread mainly in Indonesia, with 4,227,038 confirmed cases and 142,612 deaths. Indonesia accounts for 33.8% of the total confirmed COVID-19 cases in ASEAN countries, whereas other countries, such as the Philippines (2,654,450), Malaysia (2,654,450), and Thailand (1,700,067), have fewer cases (Oxford Martin School, 2021).

This pandemic has several consequences for various industries, including property management, as they need to adjust for new circumstances. When confronted with the pandemic, the Malaysian government worked diligently and developed many guidelines to ensure the smooth operation and minimize the risk of disease spread. But each property is

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unique and has its own set of property management challenges. Property management also has its own approaches regarding current events, especially in facing COVID-19 pandemic. Therefore, this study is critical in identifying the challenges faced by property management companies while managing high-rise residential buildings during the COVID-19 pandemic.

Literature Review

Property Management in High-rise Residential Buildings

Property management is critical throughout the property life cycle in providing a better value for money. Additionally, property management is imperative, particularly in high-rise and high-density residential areas (Yuen & Yeh, 2011). Property management in high-rise residential buildings is involved in managing the building and its common areas (common property) and ensuring that all facilities are managed prudently for safe habitation (Che-Ani 2009; et al., Ramly, 2002).This situation is accomplished environmental/physical and social aspects (Bröchner, Haugen, & Lindkvist, 2019). In other words, in addition to managing and maintaining the physical structure and amenities (Sia et al., 2017), appropriate property management is essential to deal with the owners' diverse backgrounds and ethnicities (Vergara et al., 2019; Zhang et al., 2018).

Property value contributions may be maximized when property management professionals are regularly accountable for offering suitable facility solutions to business difficulties (Then, 2005). Additionally, property management includes keeping track of resident profiles, occupancy, operational and capital costs, and revenues (Kaganova & Nayyar-Stone, 2000). However, the management needs financial resources to provide the services to residential property (Tawil et al., 2010). Successful property management depends on treating residents as valuable customers and establishing consumer preferences enables businesses to create personalized products and more extraordinary services (Mccoll-Kennedy & Schneider, 2000). Therefore, in order to reach a high level of residential satisfaction, property management faces several challenges in providing good services.

Challenges of Property Management

The COVID-19 pandemic that has hit the world community now has various implications on human life. By examining the impact of the COVID-19 pandemic, the study emphasizes the challenges faced by property management in Malaysia. Challenges in this study are defined as issues or constraints that encompass social, economic, and environmental aspects during the government's Movement Control order (MCO). The MCO started from Mac 2020 to December 2021 and found that the study on the challenges and implications of COVID-19 in community studies is diverse.

A brief overview of the challenges of property management in managing high-rise residential buildings during the COVID-19 pandemic is provided here. The challenges can be classified into three major aspects, namely, (1) social, (2) economic and (3) environmental.

Social Aspect

In terms of social challenges, previous studies have focused on social interaction challenges in the context of property management between tenants and owners. For example, Miller et al. (2021) examined the role of landlords in aspects of tenant management during the COVID-19 pandemic among settlement neighbourhoods in urban Ghana. The study using Social Role

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Theory involved qualitative data collection in five areas in Ghana. The study concluded that social relationships between landlords and tenants during the COVID-19 pandemic were strained. It was found that the landlord also did not provide an agreement document covering the management of residential facilities during the pandemic. In this regard, the management of residential facilities requires a proactive role and involvement so that the social relationship of both stakeholders is secured.

Besides, social control and less socialization also occur during MCO. In managing high-rise residential buildings, the social interaction between management personnel and residents also are crucial. This interaction is based on the responsibility of management as managing agent and residents as a receiver (SMA, 2013). During the COVID-19 pandemic, the government issued various regulations to curb the spread of the virus, such as avoiding or postponing social gatherings and practicing social distancing (MKN, 2020). The rules issued have restricted socialization, not only for resident's daily life but also regarding their employment. Some people only follow the rules set if public authority controls the situation (Sarifin & Yusoff, 2020). This situation shows that the people will follow the rules but do not like to be controlled and restricted from socialization. But with the development of technology, this issue can be overcome, and current information can be quickly disseminated as Malaysians primarily use television and internet news portals to access information on COVID-19 (Azlan, Mohamad, Tham & Hamzah, 2020).

Economic Aspect

As in the study of Rogers and Power (2020), economic challenges focus on the loss of income sources involving employment sectors. Most of the industries affected are tourism and hospitality due to restrictions of tourism activities. Besides that, the retrenchment by companies and income reduction affects the employee. Losing a person's job is also linked to economic-health challenges because individuals infected with a pandemic or have close contact require self-isolation. Lack of experience in self-isolation can result in a person facing stress and temporary loss of income, especially for those earning a daily wage (Hang, 2020; Ren, 2020). This situation also affects the rent or maintenance fund payment for their housing in the findings of Rogers and Power (2020) involving case studies in cities in North America (New York), Europe (London), Australia (Sydney).

Besides that, other challenges of property management when several unit owners in strata residences asked for discounts on maintenance fees and service charges since common facilities are not allowed to be used due to the COVID-19 outbreak. To such requests, property managers always must remind owners that it is impossible to give waivers or discounts as the JMBs and MCs may not have enough funds otherwise to carry out the necessary maintenance and for emergencies. Even if management provides a deal for homeowners, service providers may not give property management a discount as maintenance repair or cleaning works must be carried on as usual. Even when common facilities such as swimming pools or gyms are not used, they still need to be maintained (EdgeProp, 2020).

Reducing maintenance charges will 'sink' the property's maintenance level. Infrastructure and systems like sewage systems and piping would fail without proper maintenance, especially when more people stay home. Furthermore, any adjustment in fee collections will need the approval of property owners via an AGM or EGM where property owners need to be physically

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present. But due to the COVID-19 outbreak, JMBs and MCs currently cannot hold any AGMs and EGMs due to social distancing measures according to the SOP by the Housing and Local Government Ministry. Furthermore, current laws do not support virtual or online AGMs to be held as the Strata Management Act 2013 states that the physical presence of owners is required. If social distancing continues, many AGMs will be postponed; there is no practical solution to this yet (EdgeProp, 2020).

Besides, management offices of strata schemes should operate in a minimal mode according to appropriate implementation during MCO restrictions (KPKT & MKN, 2021a). For example, the management office should remain closed to the public with active communication channels provided. Therefore, online transactions are the only way to pay for maintenance fund collection with the management office closure. But not all the residents are familiar with the method as they always come to the office to report complaints and pay the maintenance fee. This situation will affect the collection of the maintenance fund for housing operations.

Environmental Aspect

The theme of environmental challenges is also related to the workload for sanitation procedures of high-rise residential buildings. The movement of building maintenance work and periodic cleaning challenges cleaning staff and appointed contractors. In this regard, it was found that the COVID-19 Standard Operation Procedures (SOP), which demanded regular sanitation compliance in every residential building, gave a new workload to the cleaning personnel. Compliance with the SOP regarding the status of cleaning personnel required to obtain two complete doses of vaccine and health screening tests before performing cleaning tasks constrained the smooth running of sanitation work (KPKT & MKN, 2021b).

Besides that, the MCO restricts outsourcing services because most services are usually outsourced to external contractors. This condition can disrupt the maintenance schedule designed from the beginning and disturb the housing operation (KPKT & MKN, 2021a). This condition also becomes disturbing when there is a need for immediate replacement tools due to SOPs that need to be followed. SOPs and virus transmission can cause the maintenance schedule to need to be modified according to the current regulations and take into account the health condition of the contractors.

Everyone in the property management industry, especially residents, needs to follow the directions given by the authorities religiously. Since property management does not have experience through this pandemic before, this is the time for property management to utilize their experience and common sense in providing practical solutions in compliance with the Movement Control Order (MCO). To smoothen the ad-hoc situation, The Housing and Local Government Ministry and various authorities also provided a list of standard operating procedures (SOPs) or guidelines on COVID-19 preventive measures in strata buildings and high-rises constantly updated (KPKT & MKN, 2021a).

Scenario study in Malaysia by Hassan et al (2021) emphasizes mental health challenges, police-community relations challenges and the diversity of police roles in implementing aspects of management and operation of COVID-19 preventive control rules. By examining the significance of the current challenges of the COVID-19 pandemic on the management of multi-storey residential properties, the study identifies the social, economic and environmental challenges from the perspective of property management to obtain some

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insights. The research questions are dissected through research themes aligned with the study subjects' actual experiences.

Methods

Instrument Design

This research focused on property management of high-rise residential buildings during the COVID-19 pandemic. The qualitative research method with a case study approach is used to explore issues related to challenges by property management. Case studies approaches are employed because of their advantages in examining specific events that rarely occur in social phenomena (Lebar, 2021; Creswell, 2018; Stake, 2003). For example, the outbreak during the COVID-19 pandemic was a social incident that was never experienced by the community. Accordingly, case studies are adequate to explore the challenges in high-rise residential property management issues.

The data collection technique was involved two main methods, namely in-depth interviews and document analysis. The in-depth interview process was conducted through telephone call appointments with informants. For in-depth interviews, questions are divided into two (2) main sections, namely Section A. Informant Demographics and Section B. Challenges of Property Management in High-rise Residential Buildings. Part B is divided into several study themes. Document analysis techniques were performed by examining local press releases and documents related to property management of high-rise residential buildings to support the results.

Study Location and Sampling Size

The sampling technique uses purposive sampling to involve eight (8) informants who have experience in property management of high-rise residential buildings. It is in line with the recommendations of Creswell (2018) in the adequacy of the case study sample is from 4 to 10 people (Stake, 2006). The study location involved the high-rise residential buildings in Selangor area. The rationale for selecting the study area is Selangor has the highest population density (Department of Statistics, 2021) and has the highest percentage of high-rise residential buildings (KPKT, 2019). In-depth interview data were analyzed using thematic analysis techniques by describing verbatim from the views of the interviewed informants.

This study explores three main themes that pose a challenge to the management of high-rise residential buildings. To improve the reliability of the interview data, the method of triangulation as recommended by Lebar (2021) between the study interview data with the statements of the informant group was critically analyzed. The study also adhered to research ethics by seeking permission from the management of high-rise residential buildings to document the informants' perceptions for this study.

Results and Discussion

This study involved five male and three female property management personnel. The informants comprised mostly Malays (88%) and Indians (12%). All of the informants had Bachelor's Degree academic qualifications. The informants are the personnel involved in managing the high-rise residential buildings, such as the building manager, admin assistant and area manager. Most of the informants have worked in the property management field for almost six years and more. Table 1 shows the details of the informants.

Table 1

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Demographic of Informants

Informant	Gender	Race	Academic Qualifications	Job Designation	Years of Working Experience
1	Male	Malays	Bachelor Degree	Building Manager	6-10 years
2	Female	Malays	Bachelor Degree	Admin-assistant	6-10 years
3	Female	Indian	Bachelor Degree	Area Manager	11-15 years
4	Male	Malays	Bachelor Degree	Building Manager	0-5 years
5	Male	Malays	Bachelor Degree	Building Executive	0-5 years
6	Female	Malays	Bachelor Degree	Property Officer	11-15 years
7	Male	Malays	Bachelor Degree	Property Manager	6-10 years
8	Male	Malays	Bachelor Degree	Strata Manager	6-10 years

Challenges of Property Management

Challenges in Social Aspect

The social challenges identified in the study are related to property management resident's social interaction, social control of compliance of high-rise residential residents and socialization of Movement Control Order (MCO) rules.

Table 2
Themes of Social Challenges in terms of Social Interaction

Informant	Verbatim Quotes
Α	"Interaction and communication restrictions difficulties"
F	"Property owners who rent out their property find it difficult to attend the AGM. While there are SOPs for the restoration phase allowing 50% of owners to attend the AGM. And they are also not present online, and many owners do
	not pay the service charge because many lost their jobs due to COVID. They are difficult to contact."
н	"SOPs issued are sometimes confusing and vague, but at times able to provide direction for Management Officer. Resident interactions are both more challenging and streamlined (online interaction)."

The theme of social interaction is related to the physical communication barriers between property management and residents. The restriction of movement causes the residents challenging to be physically present in the residential premises in attending meetings or any related events. To overcome the issue, starting from March 2021, KPKT, with MKN cooperation, gave AGMs permission to hold online to resolve the meeting backlog (MKN, 2021). But most of the informants interviewed believe that residents' rate of involvement and participation in the Annual Grand Meeting (AGM) held online using virtual applications such as the Google Meet platform is not well received by residents. This situation affects the results in meeting discussions that require an agreement between the property manager and the residents that do not go well.

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In this case study, this barrier existed among the residents of high-rise residential premises. Informant G expressed that the failure of virtual social interaction and the constraint of physically attending to the residential premises of high-rise buildings have affected the service collection fund from residents. Furthermore, the residents of the premises are also found difficult to be contacted. At the same time, they also avoided answering any phone calls and responding to property management office messages. This situation occurs because not all residents are familiar with the latest way of communication, especially senior citizens. The study also found that social challenges between the management and residents influenced the payment of facility services which are failed to be settled by residents due to job loss and disruption of income.

Table 3
Themes of Social Challenges in terms of Social Control

Informant	Verbatim Quotes
В	"Some residents questioning the SOPs and compared our guidelines with other condos"
С	"Frequent change of SOP"
G	"Confusion among residents and management due to the SOP keeps on changing. Overseas residents did not follow the SOP as they don't understand. Communication barrier to continuously updating residents on the latest SOP as not all of them will read the notice (be it physical notice or via app)"

High-rise residential property personnel and residents also need to adhere to social control. In this context, three informants (Informant B, C, and G) expressed their opinions based on their experiences. It was found that the aspect of social control in terms of compliance with SOPs is confusing to property management because they often change it from Phase 1 to Phase 4 MCO. Informants also expressed that the residents always complained and stated their frustration regarding building facilities usage during COVID-19. Besides, the residents questioned and compared the differences in SOPs between high-rise residential buildings regarding shared facilities surrounding the property.

For residents of premises with non-citizen status, Informant G stated that they have difficulties understanding the Standard Operation Procedures (SOPs) provided. This situation gives them a hurdle in complying with social controls in residential areas when using shared facilities such as sports centers, swimming pools, recreational parks, elevator load at a time, and receiving the posting of goods by dispatch. International residents also do not understand the role of using applications such as MySejahtera and Selangorku application for the purpose of a social movement from home to a permitted location. Such failures affect the social control during MCO at high-rise residential property and give some lousy impression towards the management role as not competent in managing the building.

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Table 4
Themes of Social Challenges in terms of Socialization

Informant	Verbatim Quotes
D	"Government SOP keep changing which effect MO operation, residents"
	behaviour (especially foreigners) which not obey to the SOP guideline,
	challenges in educating the resident on the current SOP & restriction during
	MCO, unable to conduct AGM/EGM"
E	"Resident refuses to cooperate in following SOPs. The infected resident did not
	cooperate in giving info and status of their Covid-19."

Socialization is the third theme in social challenges. In this aspect, Informant E mentioned that the residents with COVID-19 did not cooperate to inform the management office. Sometimes, the non-citizen residents with COVID-19 symptoms of fever, cough, and flu did not seek follow-up treatment and symptomatic screening tests. This situation occurred when they did not socialize and familiarize themselves with the new regulations as they constantly changed accordingly. They did not know the importance of giving information and cooperation to the management regarding symptoms experienced by the household. Besides, the information on social distance norms, self-quarantine norms, and health screening tests at nearby private clinics or hospitals did not receive a response from non-citizen residents due to language constraints. The attitude of residents who disregard any rules and do not adopt new norms is very challenging to management office personnel because socialization as a process of learning new norms is not well received.

Challenges in Economic Aspect

Next, from economic aspects, three (3) challenges were identified for property management companies in managing the high-rise residential buildings during the COVID-19 pandemic, which are financial constraints by residents, awareness of using the cashless payment method and increasing cost due to SOP.

Table 5
Themes of Economic Challenges in terms of Financial Constraint by Residents

Informant	Verbatim Quotes
С	"This was a major issue on non-payment."
D	"Low maintenance collection rate (less than 60%), JMB cuts the company prof fees due to WFH, residents req for maintenance fee discount/exemption due
Ε	to MCO/Covid."
F	"Collection also slowed down due to lockdowns and residents short on incomes."
	"Due to covid, many people lost their jobs so it was difficult for them to pay
Н	the service charge, and eventually a lot of damage could not be maintained, and the PM's service as an agent had to be stopped."
	"Maintenance collection depends much on purchaser background. Investors
	have no problem making payments on time, but owner-occupied units may
	prove otherwise. Residents with financial drawbacks do struggle, but MO and
	JMB may assist in terms of monthly installation settlement"

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Most informants mentioned that residents' financial constraints had become the main economic challenge. Informants informed during the MCO phase, many companies were forced to shut down their operations due to their inability to sustain operations costs without revenue. Due to this situation, their resident's sources of income have been impacted. This condition disrupts the ability to pay the residence's maintenance fee. Although collecting maintenance funds is a common problem for property management (Azian et al., 2020), this situation worsens the fund collection scenario. Besides, some owners refused to pay maintenance as they said the facilities could not be used during the pandemic. As a result, this condition influences the collection of maintenance fees.

Table 6
Themes of Economic Challenges in terms of Awareness of Cashless Payment method

Informant	Verbatim Quotes
Α	"To educate residents to use online payment and provided payment apps."
G	"Old-age residents who are not tech-savvy are having difficulties in making online transaction or e-payment, but some of the office counters did not want
	to accept cash payment."

The second one is related to the awareness of using cashless payment. Nowadays, any payment can be cashless due to technological advancements and the acceptance of online payments. However, not everyone prefers this approach owing to numerous instances of fraud and inability to use the system, particularly for senior adults. As a result, they cannot pay at the management office as the office closure due to SOPs, which influences the collection of maintenance fees.

Table 7
Themes of Economic Challenges in terms of Increasing Costs due to SOPs

Informant	Verbatim Quotes
Α	"To spent more on disinfection activities."
G	"Increase in cost and due to regular and full sanitization and providing appropriate health protection (mask, face shield and sanitizer) to all site staff."

Besides, Informant A and G mentioned increased costs in following the SOPs stated by the government. Every property management company must adhere to the SOPs, particularly for sanitizing procedures in the property's common areas. Additionally, they need to prepare any material for health protection for the management staff and residents, such as COVID-19 test kits, hand sanitizer, and mask. They also need to educate the residents in following the SOPs by advertising on banners, posters and flyers. This action will increase the operation cost borne by maintenance fee collection with the property management companies responsibilities.

Challenges in Environmental Aspect

From environmental aspects, there are three (3) challenges for property management companies in managing the high-rise residential buildings during the COVID-19 pandemic, which are the guideline for outsourcing, the workload for sanitization procedure and limited source of a replacement part.

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Table 8
Themes of Environmental Challenges

Guideline f	Guideline for outsourcing services	
Informant	Verbatim Quotes	
Α	"Not all suppliers and contractors are essential sector. Supply such as electrical and urgent repair	
	works may delay and face hiccup."	
С	"Staff deployment was a problem hence a lot major works had to be placed on hold."	
D	"Affect the maintenance schedule due to limited time of operation, few contractors unable to	
	start their work due to MCO."	
F	"Many facilities cannot be maintained."	
G	"Some of the contractors cannot follow the maintenance schedule due to CMCO / TEMCO / no	
	MITI letter. Buildings are running with low manpower for maintenance and cleaning. Some	
	permits (such as lifts PMA) could not be renewed on time."	
Н	"Maintenance aspect had to be conducted in-house rather than outsourcing, as MCO remains	
	one of the most unpredictable problems to a planned and preventive maintenance routine relying	
	heavily on external vendors. MO and property management companies have to adapt and	
	improvise to ensure operations run as per usual and the impact to residents are minimized."	
The worklo	ad for the sanitization procedure	
E	"Workload for cleaner has increased for regular sanitization."	
Limited sou	rce of the replacement part	
E	"Limited source of a replacement part due to most suppliers closing their businesses."	

Most informants mentioned that they needed to restructure their maintenance schedule to adhere to the SOPs. Many property management companies usually hire contractors specializing in particular services such as lift maintenance, fogging, landscaping, and cleaning. As informant G stated, altering SOPs repeatedly results in an unclear SOP for obtaining authority to outsource operations. Besides, the limited source of replacement parts due to most suppliers closing their business. As a result, maintenance schedules cannot commit and facilities cannot be appropriately maintained, affecting resident satisfaction.

Other than that, the workload for cleaning procedures has increased due to regular sanitation in following the SOPs. Cleaning workers and designated contractors have a hurdle with the mobility of building maintenance work and periodic cleaning. In this regard, it was discovered that the COVID-19 SOPs, which required frequent sanitation compliance in all residential buildings, added to the cleaning staff's duty. Compliance with the SOPs on the requirement for the cleaning team to get two complete doses of vaccine and pass a health screening test before undertaking cleaning activities hampered the efficient operation of sanitation activity.

Conclusion

In conclusion, there are several challenges from three main aspects, which are social, economic and environmental, that property management companies confront while maintaining residential buildings during the COVID-19 outbreak. From the social aspect, the social interaction, social control and socialization between management and residents must be enhanced in order to obtain up-to-date information about the high-rise residential buildings' wellbeing. Economically, while the management office faces several hurdles, with residents' cooperation in paying the maintenance charge, residential buildings may thrive in any scenario. Additionally, all parties must adhere to the SOPs to prevent unintended consequences.

Besides emphasizing the importance of having good property management in managing highrise residential buildings, the MCO and COVID-19 outbreak seem to have also brought out the spirit of communal living among residents of strata schemes. Some neighbours who

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previously do not know each other have started to connect by sharing ideas and helping each other cope better with the situation.

The property managers' role, especially in times like this, is not limited to managing physical structures but also human management to improve compliance and raise awareness. Hence, a real pandemic-proof home is perhaps to live within a well-managed and harmonious community. This scenario was mainly owing to the extensive SOPs developed by the government, lockdowns, and the cooperation of locals. Thus, property management companies in Malaysia were exposed to a new dimension of managing high-rise residential properties when the COVID-19 pandemic. This situation impacted both the macro and micro aspects of management offices' operating standard operating procedures, restrictions, guidelines, statutory requirements, monitoring, psychological aspects of residents and management staff, financial aspects, as well as adapting to new routines, circumstances, and problem-solving.

References

- Azian, F. U. M., Yusof, N., & Kamal, E. M. (2020). Problems in high rise residential building: From management perspective. IOP Conference Series: Earth and Environmental Science, 452(1). https://doi.org/10.1088/1755-1315/452/1/012087
- Azlan, A. A., Mohamad, E., Tham, J. S., & Hamzah, M. R. (2020). Relationship Between COVID-19 Information Sources and Attitudes in Battling the Pandemic Among the Malaysian Public: Cross-Sectional Survey Study. (November). https://doi.org/10.2196/23922
- Bröchner, J., Haugen, T., & Lindkvist, C. (2019). Shaping tomorrow's facilities management. Facilities, 37(7–8), 366–380. https://doi.org/10.1108/F-10-2018-0126
- Che-Ani, A. I., Jamil, M., Zain, M. F. M., Mohd-Nor, M. F. I. and Mohd-Tawil, N. (2009), "A satisfaction survey of high-rise residential management in Malaysia: Sustainable indicators", WIT Transactions on Ecology and the Environment, Vol. 120, pp. 643-652
- Creswell, John W., Creswell, J. David. (2018). Research design:qualitative, quantitative and mixed methods approaches. Fifth edition. SAGE. Los Angeles
- Department of Statistics (2021). Current Population Estimates, Malaysia, 2021. https://www.dosm.gov.my
- EdgeProp (2020). Property management in the age of Covid-19.
- https://www.edgeprop.my/content/1687977/property-management-age-covid-19
- Hang, M. (2020). Preparing cities for epidemics: lessons from the COVID19 outbreak. International Journal of Urban and Regional Research. Retrieved February 24, 2020, from https://www.ijurr.org/the-urban-now/preparing-cities-for-epidemics
- Hassan, N., Razali, S. M. & Mohamad, M. S. (2021). Cabaran Polis dan Tentera Mendepani Pandemik Covid-19. Vol. 18. No.3 (2021). 241-252. ISSN: 1823-884x
- Kaganova, O., & Nayyar-Stone, R. (2000). Municipal Real Property Asset Management: An Overview of World Experience, Trends and Financial Implications. Journal of Real Estate Portfolio Management, 6(4), 307–326. https://doi.org/10.1080/10835547.2000.12089624
- Kong Sia, M., Wong Chin Yew, V., Yong Lim, Z., & Dongqing, Y. (2017). Facilities Facilities and maintenance services for sustainable high-rise living Facilities and maintenance services for sustainable high-rise living. Facilities, 358(7), 405–421.
- KPKT. (2019). Laporan COB PBT 2019.
- KPKT, & MKN. (2021a). PELAN PEMULIHAN NEGARA FASA 2 SOP SEKTOR PENGURUSAN STRATA.

Vol. 11, No. 1, 2022, E-ISSN: 2226-3624 © 2022

KPKT, & MKN. (2021b). SEKTOR PENGURUSAN STRATA (PKP).

Mccoll-Kennedy, J., & Schneider, U. (2000). Measuring customer satisfaction: Why, what and how. Total Quality Management, 11(7), 883–896.

https://doi.org/10.1080/09544120050135434

Miller, A. W., Agbenyo, F., & Menare, R. M. (2021). Tenant management under COVID-19 pandemic season among informal settlement rental housing in Ghana. Housing, Care and Support.

MKN. (2021). Sektor Pengurusan Strata (PKPB).

Othman Lebar (2021). Penyelidikan kualititatif: pengenalan kepada teori dan metode. Edisi ke-2. UPSI Press.Tanjung Malim

Oxford Martin School (2021). Coronavirus (Covid-19) Response.

https://www.oxfordmartin.ox.ac.uk/coronavirus-response/

Pelan Pemulihan Negara (2021) Majlis Keselamatan Negara.

https://www.mkn.gov.my/web/ms/pelan-pemulihan-negara-fasa-4/

Ramly, A. bin. (2002). Prinsip dan Praktis: Pengurusan Penyelenggaraan. Selangor: Putaka Ilmi.

Ren, X. (2020). The quarantine of a megacity: China's struggle over the coronavirus epidemic. International Journal of Urban and Regional Research

Rogers, D., & Power, E. (2020). Housing policy and the COVID-19 pandemic: the importance of housing research during this health emergency. International Journal of Housing Policy 20(2):1-7.DOI: 10.1080/19491247.2020.1756599.

Sarifin, M. R., & Yusoff, N. H. (2020). Reactions of Malaysian citizens towards Movement Control Order (MCO) during the transmission of COVID-19 Pandemic Reactions of Malaysian citizens towards Movement Control Order (MCO) during the transmission of COVID-19 Pandemic. (October).

SMA. (2013). Strata Management Act 2013. In Percetakan Nasional Malaysia Berhad.

Stake, R. (2003). Case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), Strategies of qualitative inquiry (2nd Ed.). pp. 134-164. Thousand Oaks, CA. Sage

Stake, R. E. (2006). Multiple case study analysis. The Guilford Press, New York.

Tawil, N. M., Ani, A. I. C., Ani, C., N.M.S, I., & Zain, M. F. M. (2010). Management difficulties in managing high-rise residential complexes in Malaysia: the service charge aspect. Recent Advances in Energy & Environment, (February 2010), 31–35

Then, D. S. S. (2005). A proactive property management model that integrates real estate provision and facilities services management. International Journal of Strategic Property Management, 9(1), 33–42. https://doi.org/10.1080/1648715X.2005.9637524

Vergara, L., Gruis, V., & van der Flier, K. (2019). Understanding Housing Management by Low-income Homeowners: Technical, Organisational and Sociocultural Challenges in Chilean Condominium Housing. Buildings, 9(3), 65. https://doi.org/10.3390/buildings9030065

Yuen, B., & Yeh, A. G. O. (2011). High-Rise Living in Asian Cities. In Springer Dordrecht Heidelberg London New York.

Zhang, H., Matsuoka, R. H., & Huang, Y. J. (2018). How do community planning features affect the place relationship of residents? An investigation of place attachment, social interaction, and community participation. Sustainability (Switzerland), 10(8). https://doi.org/10.3390/su10082726