Collectivism in Apartment Building Management in Hong Kong

Wei Gao

Department of Real Estate and Construction, University of Hong Kong, Hong Kong, PRC

lisagao@hku.hk

Daniel Chi Wing Ho

Department of Real Estate and Construction, University of Hong Kong, Hong Kong, PRC

danielho@hku.hk

Abstract: Building management ought to be of paramount importance to sustainable development. It slows down a building's depreciation rate, delays redevelopment needs, and reduces construction waste. Despite various benefits brought about by building management, apartment owners are, in general, not willing to contribute to organizing for their management. Due to the fragmented ownership of apartment buildings and the fact that the responsibility of management is shared by all owners, collective action problems are common in the management process. Based on the collective action theory, this paper explores the reasons behind the problematic nature of building management and evaluates the effectiveness of three types of solution: individualist, centralized, and institutionalist. Using a case study, the paper demonstrates the results of a fusion of the three solutions in managing a residential estate with 22 apartment building blocks. It concludes that a combination of the three solutions is possible and conducive to solving collective action problems. It further suggests that institutions, central authorities, and selective incentives should be introduced to help apartment owners manage their buildings. The findings of this study contribute to the formulation of government policies to promote effective building management in apartment buildings.

Keywords

Property management, collective action, Hong Kong

Introduction

Building management ought to be of paramount importance to buildings and their residents. It plays an active role in slowing down a building's depreciation, delaying redevelopment needs, and preserving the social fabric (Ho *et.al*, 2010; Wilhelmsson, 2008). It is conducive to building a comfortable living environment and developing a cohesive and harmonious community so that residents could enjoy happier lives (Chan, 2006). In spite of the importance of building management, owners are not keen on it. It is said that owners' apathy is due to their inadequate awareness, confusion over their management responsibilities, or a lack of sufficient management expertise, time, and money (Blandy *et.al*, 2006; Goodman and Douglas, 2008; Ho, 1993; Hui, 2005; Kangwa and Olubodun, 2003; Yau, 2010).

Despite years of education, enhanced financial subsidies, and technical support for building owners, building dilapidation due to insufficient management is still a problem in Hong Kong. One illustration is the proliferation of unauthorized building works (UBWs), which cause health nuisances and constitute a fire risk to residents. Constrained by limited buildable area in Hong Kong, building owners tend to increase their livable area by constructing UBWs e.g. the projection of metal cages on external walls and the construction of rooftop structures. In 2010, the number of UBWs was estimated to be 520,000 (Development Bureau, 2010) and the number of newly constructed UBWs is still on the increase (Table 1). Although the government has endeavored to tackle UBWs through publicity campaigns and legal enforcement, the UBW problem remains unresolved. Most UBWs proliferate in common areas where individual owners are perceived to have little management control. This shows that the long-standing UBW problem does not involve merely technical issues, but management difficulties as well.

Table 1 Number of reports received by the Buildings Department about dangers from buildings

Year	Dangerous buildings	Dangerous advertising signs	Unauthorized building work	Total no. of reports
2006	6768	564	24861	32193

2007	4558	322	24633	29513
2008	6138	563	24942	31643
2009	5566	478	25102	31146
2010	8028	242	28148	36418

Source: Buildings Department

In fact, the building dilapidation problem is also complicated by collective management difficulties as a result of the multiple ownership of apartments (Walters and Kent, 2000; Yip, 2010). When an owner purchases a flat in an apartment building, he is not only entitled to the exclusive possession of his flat, but also jointly owns the common parts of the building with other owners of the same building. Under the co-ownership arrangement, flat owners are forced to act collectively on the use, upkeep, and management of the common parts of their building. However, it is not easy for owners to maintain their building collectively. They have diverse interests and management requirements in building management. Middle-class owners who desire a comfortable and attractive living environment would like to invest more money in building upkeep, while less well-off owners want to carry out maintenance works only when they are necessary and essential. More importantly, owners tend to overuse common areas and free-ride management outcomes under the co-ownership arrangement (Hastings et.al., 2006; Walters and Kent, 2000). They also share the benefits and costs of using the common areas. As rational human beings, owners tend to maximize the benefits of using their common areas and minimize their maintenance cost responsibilities. If they are not punished for overusing and/or free-riding these facilities, their building would receive little upkeep and dilapidate more quickly.

Currently, over 95 percent of Hong Kong's population is living in multi-storey apartment buildings (Lai and Yik, 2011). The struggle against poor building management has continued for decades. Owners who are unable to prevent their buildings from premature physical depreciation by making collective decisions to fix their flaws have long been a social problem (Chau *et al.*, 2003; Yau, 2011). From this background, this paper aims to investigate ways to encourage owners to manage their buildings collectively based on the collective action theory.

Literature Review

The collective action problem describes a situation in which individuals in a group are unable to cooperate to provide collective goods. Olson (1965) pointed out that collective action fails because individuals are self-interested and are inclined to maximize their own benefits by free-riding on the back of collective action. He further suggested that self-interested individuals would not automatically further their common interests unless selective incentives or punitive measures are provided. The selective incentives method refers to the use of financial (e.g. money) or social (e.g. self-esteem and friendship) incentives to motivate people to engage in collective action. The coercion method refers to a punishment mechanism that would force people to provide collective goods for a common purpose. Based on Olson's findings and suggestions, the authors developed three types of solution to promote collective action in building management. They are individualist solutions, institutionalist solutions, and centralized solutions.

Individualist solutions

An individualist solution depends on several individual owners' efforts to persuade fellow owners to participate in management affairs (Hardin, 1982; Yip et al., 2002). For instance, active individuals use their existing social networks to mobilize people who have latent participatory motivation to join meetings (McKee, 2008; Simmons and Birchall, 2007). Their leadership could influence participants to make beneficial building management decisions (Stirling, 1998). Stipulated by social incentives (e.g. a sense of respect and connection) and influenced by the leadership of active individuals (e.g. a sense of doing the right thing), owners would hopefully be more likely to become involved in management affairs. Their participation is conducive to effective building management (Yau, 2011). However, an individualist solution has its weaknesses. First, it is difficult to find enough enthusiastic volunteers who are equipped with sufficient knowledge and skills to regularly engage in building management (Blomé, 2010). Second, a small group of people may end up gaining too much control over the common resources without a check-and-balance system (Lindgren and Castell, 2008). For instance, between 2005 and 2008, the number of corruption reports received involving building management accounted for over 40 percent of all private sector reports (HAD, 2008). In summary, an individualist solution can be effective in certain management tasks, but relying on several individuals' efforts is not sustainable in the long run.

Institutionalist solutions

An institutionalist solution relies on predesigned rules to regulate and shape owners' behaviors in their collective actions (Bengtsson, 1998, 2001), which could reduce uncertainties in personal interactions (North, 1990). The two most important 'rules' about building management are the Building Management Ordinance (BMO) and Deed of Mutual Covenant (DMC). The BMO is established to encourage owners to form owners' corporations and assists them in making management decisions effectively and efficiently (e.g. providing guidelines for procuring goods and services for building management). A DMC is a legal document attached to a particular building. 1 It denotes the share of management rights and responsibilities among owners. With this clear delineation of management duties and interests, conflicts between owners may be reduced. However, the BMO has been criticized for not making the formation of owners' corporations, which are regarded as an effective way of tackling management problems, mandatory (Li, 2005). Some DMCs have also been accused of favoring developers and being unfair to individual owners (Ho et al., 2006; Yip, 2010). In addition, the BMO and DMCs have been blamed for not being stringent enough. For instance, both BMO and some buildings' DMCs require owners to form management committees. But there is no penalty for owners who do not heed this rule. In short, institutionalist solutions cannot shape peoples' behavior and interactions in a positive way unless they are well-drafted and enforced.

Centralized solutions

A centralized solution comes from a central authority that handles most management affairs, including coordinating owners, enforcing management rules, and providing management service to buildings (Walters and Kent, 2000). One advantage of a centralized solution is that it reduces transaction costs in the use and management of a building (Walters, 2002; Yiu *et al.*, 2006). By delegating most management responsibilities to a central authority, owners reduce their own participation in this area. Meetings convened by a central authority could function as arenas for owners to exchange ideas and make management decisions efficiently. Another advantage is that a central authority could represent owners as a whole to deal with a third party (like one that

¹ A DMC is signed by the developer, the first purchaser of a flat in the building, and the property manager appointed to manage the building (if any), but binds all subsequent buyers of any flat in the building. It divides the building into undivided shares notionally and allocates such shares among the various units of the building. An owner's rights and responsibility for his/her building are determined by how many undivided shares s/he possesses.

procures maintenance services). A central authority could be an owners' corporation (OC), an appointed property management company (PMC), or a combination of the two. To a certain extent, the involvement of both the OC and PMC could enhance a building's condition and preserve its value (Hastings *et al.*, 2006; Yau *et al.*, 2008). However, if owners delegate too much power to a central authority without checking and monitoring its performance, it may lead to principal-agent problems (Yip *et al.*, 2007). A central authority (the agent) may make decisions that are beneficial to itself, but detrimental to the owners (the principal).

In summary, each of the three solutions has its own strength and weakness. They should not be regarded as being mutually exclusive, but rather potentially complementary. In practice, a fusion of the three solutions is common in building management. However, there has not been any empirical study that shows how the three solutions interact in building management and to what extent they alleviate the collective management problem. Through a case study approach, this paper intends to illustrate the three solutions' implementation in practice. The benefit of a case study is that it increases one's knowledge of certain phenomena by seeking a range of contextual evidence (Yin, 2009). The case study in this paper was carried out through participatory observations, reviews of documents, and interviews with building management staff.

The case study

Estate R is located in Kowloon's Kwun Tong District. It is a multi-use development under the Home Ownership Scheme.² Completed in 1985, the estate consists of residential, commercial, and recreational areas. The residential part comprises 22 blocks of apartment buildings that range from 32 to 34 storeys, with 5,904 units in total. The commercial part consists of two areas. One is a ten-storey high building comprising shops on the lower three floors and a car park on the remaining floors; the other are commercial areas located on the ground floors of Block 21 and Block 22. The recreational areas include one private swimming pool, two tennis courts, one basketball court, and four play areas. There are around 15,711 residents living in the estate, and

² The Home ownership Scheme (HOS) is a subsidized-sale programme of public housing in Hong Kong managed by the Hong Kong Housing Authority. It aims to sell apartment flats to eligible low-income residents at prices below the overall market price by subsidising the value of the land on which the property is built. See http://www.housingauthority.gov.hk/en/residential/shos/hos/0,,00.html [accessed on March 7, 2011].

91 percent of them are owner-occupiers. Currently, a property management company called Company S, which is under the supervision of an OC, manages Estate R. The owners participate in major management decisions.

In this case, the central authority consists of a property management company (Company S) and an OC, by virtue of the DMC. The DMC designated Company S to manage the estate for a period of ten years from 1986. It further stated that the service of Company S should not be interrupted unless the owners pass a dismissal resolution. The DMC also required the estate to establish an OC, to which members would be elected annually, to represent the owners in all dealings with management. The DMC also acknowledged the rights of management and responsibilities of individual owners by referencing the number of undivided shares an owner was assigned or acquired. The DMC first notionally divided the land and the building into 106,350 equal undivided shares (Table 2). These undivided shares were then allocated to residential parts, commercial parts, and car park areas. An owner whose residential unit included 15 undivided shares was expected to pay about HKD\$40 management fee per month, while an owner whose residential unit was allotted 21 undivided shares had to contribute about HKD\$50. The voting power of an individual owner in owners' meeting was also determined by the number of undivided shares the owner possessed.

Table 2 Distribution of undivided shares in Estate R

	Number of shares	Percentage
Residential units	95,940	90.21%
Commercial area and garage block	8,208	7.72%
Car parks	2,202	2.07%

Source: DMC of Estate R

Through the arrangement of the DMC, Company S and the OC were charged with the day-to-day management of Estate R, including the cleaning, security, and upkeep of its buildings and services. The owners only need to participate in meetings that involve decisions on major issues. For instance, the DMC explicitly requires building services items, such as lifts and water supply

systems, to be kept in good condition. For small-scale works whose costs do not exceed 20 percent of the annual budget, the manager can decide whether or not to carry out the work with his own maintenance team or by hiring external contractors. Otherwise, he needs to consult the OC and obtain approval from the majority of owners. A review of the management records from 2005 to 2010 shows that collective owners' participation remained three times per year on average. They were present at the annual elections of the OC, annual residents' satisfaction surveys, and various residents' entertainment activities. Moreover, the last two are not directly related to management decision making. During that period, only one estate owners' meeting was held, which discussed a complete renovation of the estate. Apart from that, the owners did not participate in any building management activities collectively.

The establishment of a central authority (Company S and the OC) by the DMC and the delegation of most of the management responsibility to this authority could greatly reduce the number of times owners are required to take collective action in a matter. The question is to what extent this practice contributes to solving collective management problems. The previous part proposed that collective management problems may result from owners' conflicts and the lack of a mechanism to punish anyone for overusing or free-riding on common facilities. We now ask the following two questions: a) How are conflicts solved in Estate R and b) Is there a mechanism to punish for overuse and free-riding?

There is no doubt that conflicts may exist between owners over the use and management of a building. The important thing is how to solve them in a civil and fair manner to all parties concerned. The DMC determines which activities are allowed in the estate, while the central authority acts as a middleman to mediate disputes between residents. Take water leakage from a upper floor to a lower floor as an example. Upon receiving a complaint from the lower floor owner, the central authority will arrange for maintenance staff to identify the source of the problem. If the problem stems from the negligence of the upper floor owner, the central authority will act on behalf of the lower floor owner to notify the upper floor owner of the problem by letter and urge him/her to take remedial action. If the upper floor owner refuses to fix the problem after several reminders, the central authority will advise the lower floor owner to seek help from government departments or take legal action. In most cases, the central authority

can successfully persuade upper floor owners to take remedial actions without having to proceed to the next step.

For Question (b), there is indeed a mechanism to punish overuse and free-riding. The most common overuse behavior is the construction of unauthorized building works (UBWs). If the central authority finds any UBWs or receives reports of them from other owners, it will demand the offending owners to remove their UBWs. Owners who refuse to comply will be reported to the relevant government departments for a follow up. From this perspective, the central authority acts as a supervisor that guards against overuse and prevents owners from constructing UBWs. Delays in payments or non-payments are common free-riding behavior taking advantage of those who pay to support management and upkeeping of the building. The DMC stated that all the costs of keeping the common areas in good condition should be borne by all owners. Therefore, any owner who refuses to pay or delays payment for a certain period is in default. In practice, Company S is responsible for collecting payments and keeping payment records. In case owners do not pay for management service, Company S can take legal action against them after it warns them several times. Since most owners are afraid of legal action, some would choose to pay their fees on time.

In summary, establishing a central authority and delegating most of the management responsibility of the estate to it have greatly reduced the frequency of owners' collective action meetings. In addition, the central authority can act as a middleman to mediate conflicts between owners. It could also function as a monitor to punish owners who overuse common areas or free-ride the management outcome. A site inspection carried out by the first author also showed that the physical condition of the estate was generally satisfactory under this arrangement.³ The residents' satisfaction surveys from 2007 to 2010 also indicated that they were satisfied with the central authority's performance.

The case of Estate R shows that it is possible to establish a central authority under a DMC to manage a building effectively. It also shows that the combination of an insitutionalist solution

_

³ Details are as follows: a) the drainage and water supply systems were in good condition without unauthorized alterations; b) fire services were maintained properly with all service devices inspected once every six months; c) the external walls were free from cracks without any unauthorized building works; d) the internal walls were in moderate condition with the occasional presence of spalled concrete; e) the common areas within the estate boundary were clean and tidy.

and a centralized solution can mitigate building management problems. However, this combination is not flawless. The DMC stated that the service of Company S can be terminated only by a resolution of owners who hold not less than 60 percent of the total number of undivided shares. Assuming that one residential unit is allotted 21 undivided shares, that means 3,038 residential owners would be required to attend a meeting to dismiss Company S.4 Given that the majority of owners are indifferent to the concept of building management (Yau, 2010), it would be almost impossible to organise the required number of owners to dismiss Company S. The same situation exists in the annual election of OC members. A new OC member can only be elected in a block owners meeting in which the sum of the attendees' (including those represented by proxies) undivided shares exceeds 21 percent of that block. If the block owners' meeting is unsuccessful, the incumbent members retain their positions. A review of the estate's block owners' meeting records from 2005 to 2010 showed that only a few meetings were successful in electing OC members (Table 3). With little leverage or desire to dismiss Company S and OC members, owners are not in an advantageous position to ensure that the central authority provides quality services. As a result, Company S and the OC are free to pursue their own interests.

Table 3 Status of block owners' meetings in Estate R (2005-2010)⁵

	No. of meetings only convened	No. of meetings successfully held	No.of meetings required to be convened under the DMC
2005	9	7	21
2006	0	0	21
2007	1	1	21

1

⁴ In the residential part, an individual unit is given a variable amount of undivided shares according to its gross floor area. In Estate R, the number of undivided shares ranged from 15 to 21. In order to terminate Company S, the minimum number of owners has to = the total shares * 60 percent \div 21, or 106,350 * 0.6 \div 21 = 3,038.

⁵ Block owners' meeting is different from estate owners' meeting. The attendant of the former is limited to one specific block while the latter covers the whole estate. According to the DMC, the OC should consist of one representative from each residential block and two representatives from commercial part. And the OC should be reelected every year. In practice, there are only 21 members in the OC. In case there is no new nominator participate in the new block representative election or the commercial representative election, the incumbent OC member retains his/her job.

2008	1	1	21
2009	2	2	21
2010	7	2	21

In Hong Kong, the DMC is a private contract that cannot be amended unilaterally without the consent of all parties to the contract. Obviously, Company S and the OC have no incentive to modify the DMC, since it is drafted to favor them. Therefore, it is impossible to force Company S to improve its performance by amending the DMC. In other words, collective action by the owners to dismiss the central authority is nearly impossible because of the biased terms of the DMC. Thus, the combination of an institutionalist solution and a centralized solution may not improve management standards.

Fortunately, during the period of participatory observations, we found that this problem was eased by the individualist solution. There were several individual owners who participated in the management of Estate R with great enthusiasm. Most of these active owners had lived in Estate R for more than ten years and established strong social bonds with other owners, thereby winning their respect and trust. They collected owners' opinions of building management performance, lodged complaints to Company S, and followed through on their grievances to ensure that it maintained or improved its service. They gained information on issues discussed in the OC meetings, the details of which might not have been published in the minutes of each meeting. These dealings were forwarded to residents so as to make it easier to monitor the OC's performance. They mobilized owners to participate in management affairs through friendly invitations and persuasion. They even collected residents' views on forming an owners' corporation⁶ so that they could dismiss Company S and the OC would automatically dissolved under the BMO. Because of their influence on their fellow owners, they enjoyed more leverage with Company S and the OC, making the latter two more willing to address the grievances and problems of individual owners.

⁶ An owners' corporation is another kind of owners' organization that is a legal body formed under a BMO. Once an owners' corporation is set up, the old owners' committee would be dismissed. Under the BMO, an owners' corporation could terminate the service of a property management company more easily than under a DMC.

Revisiting the case, one can see how collective action problems were eased in Estate R.

- Step 1: institutions (e.g. the DMC) distributed the management responsibility and rights among owners;
- Step 2: institutions established and empowered the central authority;
- **Step 3**: the central authority (in this case, Company S and the OC) enforced the institutions and eased the collective action problems; and
- **Step 4**: active individuals influenced fellow owners to monitor the performance of the central authority.

The case above showed that it is possible to use the individualist solution, the institutionalist solution, and the centralized solution to mitigate collective action problems in building management at the same time. The relationship between the three solutions implemented in Estate R is shown in Figure 1.

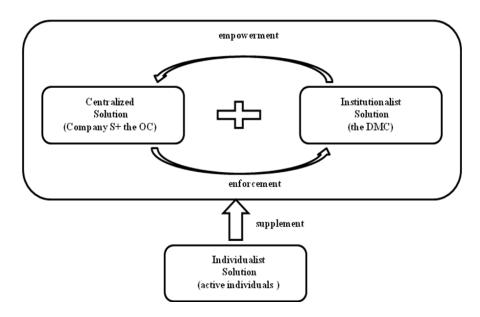


Figure 1 Mix-use of the three solutions in Estate R

Conclusion

Building management and collective management actions by owners of apartment buildings are often problematic. This paper reviewed the three major solutions for addressing the problem,

namely an individualist solution, an institutionalist solution, and a centralized solution. The case study illustrated the results of the use of all three solutions and suggested that a combination of all three works best in practice. The mix-use concept is indeed conducive to the upkeep of a building's condition and will likely ease collective action problems.

References

- Bengtsson, B. (1998). Tenant's dilemma: On collective action in Housing. *Housing Studies*, 13(1), 99-120.
- Bengtsson, B. (2001). Solving the tenants' dilemma: Collective action and norms of co-operation in housing. *Housing, Theory and Society, 17*(4), 175-187.
- Blandy, S., Dixon, J., & Dupuis, A. (2006). Theorising power relationships in multi-owned residential developments: Unpacking the bundle of rights. *Urban Studies*, 43(13), 2365-2383.
- Blomé, G. (2010). Local housing administration models for large housing estates. *Property Management*, 28(5), 320-338.
- Chan, E.Y.L. (2006). *Concepts, principles and evolution*. Hong Kong: Hong Kong University Press.
- Chau, K.W., Leung, A.Y.T., & Yiu, C.Y. (2003). Estimating the value enhancement effects of refurbishment. *Facilities*, 21(1/2), 13-19.
- Census and Statisctics Department (2010). Population and household statistics analysed by district council district. Accessed on May 27, 2011 from http://www.statistics.gov.hk/publication/stat_report/social_data/B11303012010AN10B01 00.pdf
- Development Bureau (2010). Press release: Removal of uanthorized building works. Accessed on May 27, 2010 from http://www.devb.gov.hk/en/sdev/press/t index id 5882.html
- Goodman, R., & Douglas, K. (2008). Privatised communities: the use of owners corporations in master planned estates in Melbourne. *Australian Geographer*, 39(4), 521-536.
- Hardin, R. (1982). Collective action. Baltimore, MD: Johns Hopkins University Press.
- Hastings, E.M., Wong, S.K., & Walters, M. (2006). Governance in a co-ownership environment the management of multiple-ownership property in Hong Kong. *Property Management*, 24(3), 293-308.
- HAD (2008). Home Affairs Department report of corruption involving building management. accessed on May 27, 2010 from http://www.buildingmgt.gov.hk/en/reference_materials/10_3_4.htm
- HAD (2010) Private building management database accessed at May 27, 2011 from http://www.buildingmgt.gov.hk/en/database of private buildings in hong kong/12.htm
- Ho, D.C.W. (1993). Maintenance management of ageing buildings in Hong Kong. *Property Management*, 11(3), 240-245.
- Ho, D.C.W., Yau, Y., & Poon, S.W. (2010). Sustainable development in urban renewal in Hong Kong: a physical assessement. Paper presented at the Madrid SB10 Sustainable Building Conference.

- Ho, D.C.W., Yau, Y., Wong, S.K., Cheung, A.K.C., Chau, K.W., & Wong, H.F. (2006). Effects of building management regimes of private apartment buildings in Hong Kong. *Property Management*, 24(3), 309-321.
- Hui, E.Y.Y. (2005). Key success factors of building management in large and dense residential estates. *Facilities*, 23(1/2), 47-62.
- Kangwa, J., & Olubodun, J. (2003). An investigation into home owner maintenance awareness, management and skill-knowledge enhancing attributes. *Structural Survey*, 21(2), 70-78.
- Lai, J.H.K., & Yik, F.W.H. (2011). An analytical method to evaluate facility management services for residential buildings. *Building and Environment*, 46(1), 165-175.
- Li, L.H. (2005). Managing community in Hong Kong: the political economy perspective. *Property Management*, 23(2), 122-136.
- Lindgren, T., & Castell, P. (2008). Open space management in residential areas- how it is organized and why. *International Journal of Strategic Property Management*, 12(3), 141-160.
- McKee, K. (2008). The 'Responsible' tenant and the problem of apathy. *Social Policy and Society*, 8(01), 25-36.
- North, D.C. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambriage University Press.
- Olson, M. (1965). *The logic of collective action: public goods and the theory of groups.* Cambridge: Harvard University Press.
- Simmons, R., & Birchall, J. (2007). Tenant participation and social housing in the UK: Applying a theoretical model. *Housing Studies*, 22(4), 573-595.
- Stirling, J.B. (1998). The role of leasership in condominium and homeowner assocations. *The Journal of Leadership Studies*, *5*(1), 148-155.
- Walters, M. (2002). Transaction costs of collective action in Hong Kong high rise real estate. *International Journal of Social Economics*, 29(4), 299-341.
- Walters, M., & Kent, P. (2000). Institutional economics and property strata title- a survey and case study. *Journal of Property Research*, 17(3), 221-240.
- Wilhelmsson, M. (2008). House price depreciation rates and level of maintenance. *Journal of Housing Economics*, 17(1), 88-101.
- Yau, Y. (2010). Engaging homeowners in building care in Hong Kong: Drivers and barriers. *Journal of Building Appraisal*, 6(1), 35-48.
- Yau, Y. (2011). Collectivism and activism in housing management in Hong Kong. *Habitat International*, 35(2), 327-334.
- Yau, Y., Ho, D.C.W., & Chau, K.W. (2008). Determinants of the safety performance of private multi-storey residential buildings in Hong Kong. *Social Indicators Research*, 89(3), 501-521.
- Yin, R.K. (2009). Case study research: design and methods. Thousand Oaks Calif: Sage Publications.
- Yip, N.M. (2010). *Management rights in multi-owned properties in Hong Kong*. England: Ashgate Publishing Limited.
- Yip, N.M., Chang, C.O., & Hung, T.Y. (2007). Modes of condominium management a principal-agent perspective. *Facilities*, 25(5/6), 215-226.
- Yip, N.M., Cheung, A.B.L., & Lee, J.K.C. (2002). *Tenant participation in Hong Kong*. Hong Kong City University of Hong Kong ,Department of Public and Social Administration.

Yiu, C.Y., Wong, S.K., & Yau, Y. (2006). Property management as property rights governance: exclusion and internal conflict resolution. *Property Management*, 24(2), 87-97.