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Collectivism and activism in housing management in Hong Kong

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Abstract

Management of apartment buildings is never straightforward because of the need for collective homeowner action. Mancur Olson suggests that a rational individual will not participate in collective action which provides no positive net benefit for him or her. Based on this premise, it would seem that rationality drives homeowners to free-ride on others’ efforts and that, as a result, no collective action will take place. However, some homeowners do actively participate in housing management, and it is worthwhile to examine why some participate and others do not. Building on the wide-ranging applications of the collective interest model (CIM) in explaining political participation and environmental activism, this paper expands its relevance to the arena of housing management. The explanatory analysis which is based on the findings of a structured questionnaire survey in Hong Kong corroborates the central propositions of the CIM and provides a theoretical account of housing management activism. In brief, housing management activism is a function of beliefs about personal and group efficacy, the value of the collective good, and the selective benefits and costs of participation. These findings have far-reaching implications for the formulation of government policies promoting homeowners’ active involvement in housing management in Hong Kong and other megacities.

Introduction

What makes the management of multi-owner housing different from that of single-owner housing is the social and economic interdependence of co-owners (Bailey & Robertson, 1997). Because of this particular feature, the proper management and maintenance of multi-owner housing necessitate collective action on the part of co-owners, which in turn depends very much on the latter’s active participation. Since the outcomes of proper building management and maintenance (e.g., better environmental cleanliness, building safety and security) are non-excludible, the free-rider problem is significant in the context of multi-owner housing management, as suggested by Olson (1965). Olson’s supposition helps to explain the prevailing mismanagement or disrepair of residential buildings in megacities such as Hong Kong, Shanghai and Taipei. Although these high-density urban settings feature high-rise developments that allow the efficient use of communal facilities and services like mass transport systems (Lynn, 1999; Vlahov & Galea, 2002), they also pose higher health and safety risks to local communities due to high population density. The outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 vividly demonstrated the consequences of the poor upkeep of private housing in high-density urban areas (Hung, Chan, Law, Chan, & Wong, 2006). The localised widespread transmission of SARS in Amoy Gardens in Hong Kong and the Wen-hua community in Taipei created a community health disaster in those cities (Culpan & Lin, 2010; Hung et al., 2006).

Although Olson has a pessimistic view of homeowner participation in building care initiatives, not all buildings appear unmanaged. It is thus interesting to consider why some people choose to participate in housing management and others do not. The phenomenon of homeowner participation in housing management in Hong Kong provides an excellent laboratory for the study of such collective action behaviour. This paper draws on a cross-sectional household survey of homeowner activism in housing management in Hong Kong, and the collective interest model (CIM) is used to explain homeowner behaviour. The CIM posits that people choose to participate in a collective venture when the expected value of their participation exceeds the expected value of their non-participation. This paper is also a response to gaps within the body of academic literature on resident participation in housing management. Although there are many previous studies in this field (e.g., Leung, 2005; Somerville & Steele, 1995; Wood, 2001), most of them focus on the justifications for or benefits of engaging residents in housing management. Only a few have addressed resident decision-making regarding participation.

This paper first reviews the problem of housing mismanagement in Hong Kong from the perspective of collective action. Next is
a brief introduction to the CIM, followed by the research methodology. A description of the data and the analysis results follow. The implications of the research findings will be discussed before the conclusion to the paper.

**Housing mismanagement in Hong Kong: extent and causes**

**The extent of the building problem in Hong Kong**

With a land area of around 1100 km², Hong Kong was populated by approximately 7 million people or 2.3 million households at the end of 2009 (Census and Statistics Department, 2010). While there is an extensive public housing programme, half of the population (52.1%) lived in private permanent housing in Hong Kong at that time (Hong Kong Housing Authority, 2010). As of 2010, there are around 40,000 private buildings in Hong Kong, and over 17,000 of those buildings are at least 30 years old. Of these, some 4000 are at least 50 years old (Home Affairs Department, 2010). In 10 years' time, that number will increase to 28,000 (Development Bureau, 2010). The Home Affairs Department’s (2010) database indicates that over 10,000 private buildings do not have any form of building management i.e., they are not managed by an owners’ association or a property management company. It is a general belief that these old unmanaged buildings are most vulnerable to dereliction and dilapidation, jeopardising public health and safety of the community. The contemporary building problem in Hong Kong can be ascribed to the longstanding lack of building care culture in the city (Housing, Planning and Lands Bureau, 2003). Many homeowners in dilapidated buildings are indifferent to housing management affairs. They are reluctant to carry out safety inspections of their buildings and do not undertake the necessary renovations voluntarily.

The natural consequence of building neglect is the unsatisfactory condition of the private building stock in Hong Kong, which is vividly evidenced by the large numbers of complaints about building dangers and accidents involving building structures in recent years. As shown in Table 1, the number of complaints about building dangers increased at an average annual rate of 10.5% over the thirteen-year period between 1996 and 2009. More importantly, 101 deaths and 435 injuries were caused by building-related incidents from 1990 to 2001 (Task Force on Building Safety and Preventive Maintenance, 2001). In the last 5 years, there was a new wave of building dangers created by falling building components like aluminum windows and concrete pieces (Bowring, 2005; Information Services Department, 2005; Lo, 2005). Additionally, the proliferation of unauthorised building works (UBWs) also poses safety hazards for building occupants and the general public (Ho et al., 2008; Ho, Chau, & Yau, 2008; Lai & Ho, 2001). Finally, many buildings in the city are at a high risk of fire due to poor fire safety management and inadequate upkeep of fire service installations.

On 29 January 2010, a 55-years-old apartment building in Tokuwan, Hong Kong suddenly collapsed, resulting in 4 deaths (Buildings Department, 2010b). This event once again triggered public worry over building safety in Hong Kong. Generally speaking, the building-related problems mentioned above were results of the lack of proper building maintenance (Ho, 1993; Wong, Cheung, Yau, Ho, & Chau, 2006), which is in turn a consequence of building mismanagement. Different attempts have been made to explain the mismanagement of private residential buildings in Hong Kong. However, the co-ownership arrangement that predominates in most of the multi-storey buildings in the area is commonly claimed to be the main underlying reason for the problem (e.g., Walters, 2002; Walters & Kent, 2000; Yip & Forrest, 2002).

**Collectivism in housing management**

In Hong Kong, the vast majority of residents in the private housing sector live in multi-storey residential or apartment buildings that are commonly co-owned. Owners of dwellings in these buildings do not actually ‘own’ their units exclusively (Nield, 1990). Instead, they “each own an individual share in the whole of the building and the ground on which it is built, which they hold together as tenants in common” (Nield, 1990: p. 1). In other words, these individual owners have an exclusive right to use their own units, but at the same time, they are co-owners of the entire building structure, including common areas such as entrance lobbies, access corridors, staircases, lifts, lighting, service ducts and water pumps. Under this ownership arrangement, the responsibility for managing the common areas and shared facilities in a building is thus jointly or collectively shouldered by all the co-owners. In this regard, the co-ownership nature of multi-storey buildings has created social and financial connections between co-owners (Bailey & Robertson, 1997). The use, management and upkeep of a building’s common areas thus require significant coordination and cooperation among co-owners and, more importantly, their active engagement in building care initiatives.

Consider, for example, efforts to monitor the performance of property management agents (PMAs) in Hong Kong. The homeowners in a building must lodge complaints with the PMA when the services provided by the PMA are not sufficient. The motivation of the PMA to improve its services is greater if there are many homeowners complaining about the poor services. If the situation does not change, the homeowners can form an owners’ corporation for their building and terminate the PMA’s service contract. To form an owners’ corporation, support from homeowners of at least 30% of the overall undivided shares is required. For service contract termination, 50% support is required. On these occasions, homeowner participation is needed to instigate collective action to monitor PMA performance and penalise incompetence.

Although the use, management and upkeep of the common areas of multi-family housing are usually governed by a deed of mutual covenant (DMC), homeowners’ participation in the management of this type of housing still remains voluntary in nature. Proper building management and maintenance can offer homeowners a broad range of tangible and intangible benefits, but time and financial constraints and a lack of skills and knowledge are commonly identified as limitations on building care actions (Kangwa & Olubodun, 2003). On this basis, homeowners may ignore building care rationally. As per the rational choice theory

| Year | Dangerous buildings | Yearly dangerous advertising signs | Dangerous hillside | Unauthorised building works | Total number of reports |
|------|--------------------|-----------------------------------|-------------------|----------------------------|-------------------------|
| 1996 | 2567               | 165                               | 91                | 9913                       | 12,736                  |
| 1997 | 3658               | 350                               | 130               | 12,427                     | 16,915                  |
| 1998 | 3851               | 250                               | 53                | 12,577                     | 16,731                  |
| 1999 | 4730               | 614                               | 130               | 16,999                     | 22,473                  |
| 2000 | 4280               | 260                               | 71                | 13,911                     | 18,522                  |
| 2001 | 6671               | 178                               | 41                | 12,764                     | 19,654                  |
| 2002 | 5956               | 135                               | 52                | 21,844                     | 27,987                  |
| 2003 | 3665               | 181                               | 48                | 24,870                     | 33,764                  |
| 2004 | 10,407             | 303                               | 146               | 21,123                     | 32,069                  |
| 2005 | 13,999             | 331                               | 208               | 25,683                     | 40,221                  |
| 2006 | 6758               | 564                               | 183               | 24,861                     | 32,366                  |
| 2007 | 4566               | 322                               | 128               | 24,633                     | 29,649                  |
| 2008 | 6138               | 563                               | 313               | 24,942                     | 31,230                  |
| 2009 | 5566               | 478                               | 219               | 25,102                     | 31,365                  |

*Sources: Buildings department (1999, 2006, 2010a).*
(Homans, 1961; Olson, 1965), an individual can rationally ignore an issue if the cost of educating himself or herself about the issue which is sufficient to make an informed decision exceeds the expected benefits that he or she could obtain from that decision. To put it another way, given that the homeowners perceive that the benefits derived from their participation cannot cover the associated costs, it would be irrational for them to waste time and effort participating in housing management affairs.

More importantly, there are homeowners who make some effort or hire a maid to clean the communal corridors in a building; then, other owners can benefit from the improvements in the environment without making a contribution themselves. The favourable outcome of any voluntary building care initiative is a non-exclusive public good. While it is theoretically possible to keep the ‘free-riders’ from enjoying the favourable outcome, the transaction costs incurred in monitoring and exclusion can be prohibitive. In this way, multi-family housing management exhibits the characteristics of a public good and is vulnerable to the free-rider problem. Rational homeowners, from a game-theory perspective, would be better off not to co-operate if they aimed to maximise their own pay-offs (Bengtsson, 2000). Indeed, individuals in any group will attempt to reap the benefits of others’ efforts if the group is working to provide a non-excludable and non-rival good (Brunner, 1998; Buchanan & Tullock, 1962). In his seminal work, Olson (1965) suggests that non-action or non-participation is a rational choice if the personal benefits derived from taking action are perceived to be less valuable than the personal cost of making the effort. When homeowners must decide unilaterally whether or not to contribute to the provision of a public good, the dilemma of collection action predicts that most owners will behave opportunistically and free-ride on others’ contributions (Hovi & Foss, 1995; Lai & Chan, 2004; Walters & Kent, 2000).

Solutions to the Olsonian paradox of participation

Are there any solutions to the Olsonian paradox of participation or the collective action dilemma? The literature identifies two main solutions. The first is to introduce selective incentives: benefits that participants can only derive from the activity irrespective of whether they manage to provide the public good (Olson, 1965). Selective incentives, which can be in forms of rewards or punishments for individuals, are necessary to motivate homeowners to co-operate. However, Bengtsson (1998) objects that selective incentives only lead to marginal solutions that are far from stable.

The second solution is to relax the assumption that individuals view the importance of their own participation in the collective effort as negligible. In this approach, participation is explained in terms of collective interests as a combination of individual demands for the public good and perceptions of individual and group efficacy in the collective provision of the good. Elster (1978) suggests that collective or community action is likely to occur when members of a ‘group’ are geographically close, have low turnover or membership, share a common interest and believe that they can succeed. Under such conditions, homeowners may feel that participation offers genuine opportunities to influence collective decision-making and make gains. They are more willing to participate, and as a result, collective action is more likely to occur.

Collective interest model of housing management activism

In Hong Kong, not all homeowners are free-riders with regard to housing management. Therefore, it is worth studying why some people participate and others do not. This study attempts to investigate homeowner participation in housing management in the city from the perspectives of selective incentives and collective interests. An empirical study is carried out in Hong Kong’s private multi-family residential buildings using the CIM, which was developed based on Olson’s (1965) logic of collective action.

Collective interest model: an overview

The CIM is useful for investigating stakeholders’ expectations regarding participation in collective action. The purpose of the CIM is to “incorporate the demand for the public good into an individual’s utility calculus without violating the logic of free-riding” (Finkel, Muller, & Opp, 1989: p. 886). The model posits that an individual will participate in a collective endeavour if the expected value of participation for him or her exceeds that of non-participation (Lubell, Zahran, & Vedlitz, 2007). The calculation of the expected value depends on 5 factors:

1. The perceived value of the collective good provided by successful active action;
2. The increase in the probability of success if the individual participates;
3. The extent to which the actions of the group as a whole are likely to be successful;
4. The individual’s selective costs of participation; and
5. The individual’s selective benefits of participation.

The CIM predicts that participation hinges on selective incentives and a set of non-zero “collective interest variables” (Finkel & Muller, 1998: p. 39). Generally speaking, an individual’s expected value of participation is judged based on the assessment of the total value of the public good (e.g., social welfare, environmental cleanliness and public safety), the influence of his or her participation on the collective outcome, and the selective benefits and costs of participation.

Since the CIM is empirically testable, it has been widely used to explain individuals’ participation in mass political activities (Bäck, Teorell, & Westholm, 2004; Finkel & Muller, 1998; Finkel et al., 1989), institutional collaboration (Weible, 2008) and environmental activism (Lubell, 2002; Lubell & Vedlitz, 2006; Lubell et al., 2007). For example, Finkel and Muller (1998) find that variables drawn from a CIM are important predictors of protest behaviour in Germany. Lubell (2002), Lubell and Vedlitz (2006) and Lubell et al. (2007) regard the CIM a good candidate for a general theory of collective action behaviour. This is why the CIM is applied to collective action in housing management in this study.

Applying the collective interest model to housing management activism

When the CIM is applied to homeowner participation in housing management, the expected value of participation or activism in housing management can be modelled mathematically as

\[ \text{EV(Housing Management Activism)} = (p_e \times p_i \times V) - C + B \] (1)

where EV(Housing Management Activism) is the expected value of participation, \( p_e \) is the probability that the group will be successful in providing the collective good (i.e., group efficacy), \( p_i \) is the perceived marginal influence of the individual’s contribution on the probability of success (i.e., personal influence), \( V \) is the perceived value of the collective good, \( C \) is the selective cost of participation, and \( B \) is the selective benefit obtainable from participation. As far as housing management is concerned, the collective good is a housing management outcome that is desirable for all homeowners – the creation of a hygienic, safe and pleasant living environment within the building. The terms in parentheses \((V, p_i\) and \( p_e\)) are collective...
interest variables. As indicated by Lubell et al. (2007), the incorporation of these collective interest variables into the CIM reflects the fact that the successful provision of the public good depends on the efforts of the majority. In other words, the contribution of a single individual can only slightly increase the chance of providing a collective good successfully. This premise forms the basis for the logic of free-riding in the CIM.

**Research design: homeowner survey in Hong Kong**

This analysis uses data acquired through a face-to-face structured questionnaire survey administered in the summer of 2009. The questionnaire was designed to collect the information necessary for the empirical study. Before the survey, the questionnaire was pretested and adjusted according to the tester feedback. Face-to-face interviews and self-administered written questionnaires were used to maximise the number of respondents in the survey. A total of 346 homeowners, accommodated in 53 private multi-storey residential buildings in the Western District of Hong Kong were interviewed. The Western District was chosen as the study area for two reasons. First, it is one of the oldest residential districts in Hong Kong since the British colonial reign in 1842. Secondly, there exists a wide variety of buildings ranging from old low-rise tenement blocks to high-rise apartment towers. This range of buildings creates a high degree of variation in buildings in terms of age, settings, and management regimes, which is essential to obtaining a diversified sample for analysis.

**Model specification and variable definitions**

The CIM in Equation (1) is tested using ordinary least squares (OLS) analysis. Although a linear additive function form does not truly represent the multiplicative structure posited in the theoretical CIM, it is used in this study. Alternative strategies such as transformation into a log—log specification and the use of multiplicative scales have been proposed for estimating the multiplicative elements (e.g., Finkel et al., 1989; Whiteley, 1995). However, Lubell et al. (2007) object that these methods do not offer empirical qualities superior to those of linear additive specification. These alternative strategies are also flawed because of their sensitivity to measurement scales and rescaling. Accordingly, Equation (1) is adapted as follows:

\[ \text{EV} = p_x + p_1 + V - C + B \]  

To facilitate empirical testing, the variables in the adapted model are operationalised. Table 2 lists the major empirical variables used in the study to operationalise the concepts of the CIM.

**Dependent variable**

As explained above, a rational individual will choose to participate in housing management if the expected value of his or her participation is positive. The individual will be more willing to participate if the expected value is greater. Therefore, the expected value in Equation (2) per se determines the individual's participation level, \( \text{PART} \), which is used as the dependent variable for analysis in this study. A five-point scale (4 = very frequently; 3 = often; 2 = sometimes; 1 = seldom; 0 = never) is used to gauge homeowner levels of participation in five different aspects of housing management: namely, a) organising resident activities for the homeowners' associations; b) attending homeowners' meetings; c) speaking at homeowners' meetings; d) making comments and suggestions to the homeowners' association or the PMA; and e) participating in the activities organised by the homeowners' association or the PMA. The variable \( \text{PART} \) averages the points received in these 5 areas.

**Collective interest variables**

Group efficacy, \( P_g \), measures the chance that a group of homeowners will succeed in providing the collective good of housing management. It is estimated using 2 factors, expected reciprocity and perceived group cohesion. Expected reciprocity, \( \text{EXRE} \), is measured using a 5-point Likert scale (with 1 = strongly disagree and 5 = strongly agree) and indicates the extent to which an individual believes that other homeowners in his or her building will also participate in housing management. Perceived group cohesion, \( \text{COHE} \), is also measured using a five-point Likert scale (with 1 = strongly disagree and 5 = strongly agree) and indicates the extent to which the individual believes that all co-owners in his or her building share the same values and can co-operate amicably and effectively to provide the collective good. These two variables are especially relevant in housing management. As previously mentioned, homeowner participation is essential for monitoring and maintaining the standard of housing management in a building. Additionally, the assent of the majority of the co-owners in a building is required to kick off projects such as the formation of owners' corporations, the termination of a PMA service contract or the execution of improvement projects. The activism of other homeowners is thus perceived as an important consideration for an individual homeowner considering participating in housing management. At the same time, if the homeowners are not united or do not form a cohesive unit, it is difficult for them to act collectively and work toward the same goal. In such a case, an individual may feel that no collective good will be produced in the absence of consonant views and actions by all (or the majority of) the homeowners. It is hence hypothesised that both \( \text{EXRE} \) and \( \text{COHE} \) increase housing management activism.

Personal efficacy, \( P_p \), refers to an individual homeowner's belief that his or her participation in housing management will increase the probability that the group will achieve the collective good. In many previous empirical studies (e.g., Finkel et al., 1989; Koontz, 2005; Mohai, 1985), self-perceived personal efficacy has been identified as a strong determinant of political participation and environmental activism. In the questionnaire for this study, the homeowners were asked to indicate their level of agreement or disagreement with the following statement using a five-point Likert scale (with 1 = strongly disagree and 5 = strongly agree): 'Your participation in housing management is likely to make a difference in the quality of your living place'. Homeowners with greater perceived personal influence on the management outcome, \( \text{INFL} \), are predicted to be more active in housing management affairs.

This study used an indirect approach to measure the perceived value of the collective good, \( V \). The precise valuation of a collective good is difficult if not impossible (Eagle, 2004; Graves, 2005). Again, the collective good achievable via housing management activism is a pleasant living environment for all homeowners in the building. This collective outcome will have a greater perceived value for

| CI model variable | Operationalised model variable(s) |
|-------------------|----------------------------------|
| Expected value of participation (EV) | Level of participation (PART) |
| Group efficacy (\( p_g \)) | Expected reciprocity (EXRE) |
| Personal efficacy (\( p_p \)) | Group cohesion (COHE) |
| Perceived value of collective good (\( V \)) | Outcome influence (INFL) |
| Selective costs (\( C \)) | Discontent level (DIST) |
| Selective benefits (\( B \)) | Gender (MALE) |
|                       | Age (AGE) |
|                       | Education level (EDU) |
|                       | Household income (HINC) |
|                       | Management value (MVAL) |
|                       | Life enjoyment (LIFE) |

**Table 2** Variables hypothesised to influence homeowner participation in housing management.
a homeowner if the latter feels that existing conditions differ significantly from what would be expected. Thus, in this sense, \( V \) represents the individual's level of dissatisfaction with the existing management of the building. Homeowner discontent, \( DISC \), including six aspects of housing management outcomes (namely, environmental hygiene, fire safety, upkeep of services, structural safety, security, and control of neighbourhood problems) are assessed in the questionnaire using a five-point scale (with 1 = very satisfied and 5 = very dissatisfied). \( DISC \) averages the answers to the six questions about homeowner dissatisfaction. A positive relationship between the levels of participation and discontent is hypothesised.

**Selective cost variables**

An individual's ability to pay the selective costs of participation, \( C \), is largely determined by the availability of the money, time, knowledge and skills necessary for his or her effective participation (Brady, Verba, & Schlozman, 1995). Based on this concept and the work of Lubell (2002) and Lubell et al. (2007), \( C \) is reflected by a range of demographic variables in the operationalised model. A total of four demographic variables are included in this study. \( MALE \) is the dummy variable, which equals 1 for males and zero if otherwise. \( AGE \) is a six-category scale for homeowner age (1 = 18–24 years old; 2 = 25–34 years old; 3 = 35–44 years old; 4 = 45–54 years old; 5 = 55–64 years old; 6 = 65 years old or above). \( EDU \) is a six-category scale for the homeowner's highest education level attained (1 = primary school or below; 2 = lower secondary school; 3 = upper secondary school; 4 = matriculation; 5 = sub-degree post-secondary education; 6 = degree or above). \( HINC \) is a six-category measure of average monthly homeowner household income (1 = below HK$10,000; 2 = HK$10,000–14,999; 3 = HK$15,000–19,999; 4 = HK$20,000–24,999; 5 = HK$25,000–29,999; 6 = HK$30,000 or above).

**Selective benefit variables**

Two variables are used to estimate selective benefits, \( B \). The first variable is the value of housing management, \( MVAL \), and indicates the importance of the collective good to the individual’s quality of life. Each individual was asked to answer the following statement using a 5-point Likert scale (with 1 = strongly disagree and 5 = strongly agree): “Better housing management can improve your quality of life”. The idea was that if one perceived housing management as being more valuable, a higher level of housing management activism would be the outcome. The second variable is the individual's enjoyment of life as a resident in the building, \( LIFE \), which constitutes a kind of expressive incentive according to the categorisation by Bäck et al. (2004). Expressive incentives are rewards that an individual can receive only when he or she participates. The variable is assessed using a 5-point scale (with 1 = dislike very much and 5 = like very much).

After operationalisation, the model becomes

\[
PART = \alpha_0 + \alpha_1 EXRE + \alpha_2 COHE + \alpha_3 INFL + \alpha_4 DISC + \alpha_5 MALE + \alpha_6 AGE + \alpha_7 EDU + \alpha_8 HINC + \alpha_9 MVAL + \alpha_{10} LIFE + \varepsilon
\]

(3)

where \( \alpha_i \) (for \( i = 0,1,2,\ldots,10 \)) are coefficients to be estimated and \( \varepsilon \) is the stochastic term. To facilitate the interpretation of the results, all attitude measures, including the dependant variables, are linearly rescaled to the continuous [0,1] range before model estimation.

**Profile of the respondents and data description**

The demographic characteristics of the 346 respondents are summarised in Table 3. Most of the respondents represent the low- or medium-income group. The average age of the buildings in question was 34 years at that time. Each building has 63 dwelling units on average, and the number of storeys ranges from four to 33. 44 buildings (83.0%) have owner corporations. Among the nine buildings without owner corporations, two have mutual aid committees organised by the owners and tenants. Table 4 presents the mean responses for these variables before rescaling.

**Results of explanatory analysis and discussion**

The OLS analysis results are presented in Table 5. The adjusted \( R \)-squared is 0.71, which is quite high compared to the results of other empirical studies of the CIM. The analysis results confirm several important aspects of the CIM. All collective interest variables are found to be positive and statistically significant at the 1% level, indicating that expected reciprocity, perceived levels of group cohesion and personal influence on outcome and discontent level all enter into the decision calculus of the average homeowner. Of the four collective interest variables, discontent level (\( DISC \)) is the strongest predictor of \( PART \), though its estimated coefficient is not statistically different from that of \( INFL \) at the 5% level. Homeowners participate more if they have higher levels of discontent with the current housing management outcome. These results confirm Yau's (2010) findings that the approach of homeowners to building care in Hong Kong is predominantly reactive. These residents are not active in housing management affairs unless they can no longer tolerate the problems occurring in their buildings. Perceived outcome influence, \( INFL \), is found to be nearly as important as discontent level. As implied by the results, even when the perceived collective benefits of housing management activism are high, homeowner participation may be unlikely because homeowners see themselves as incapable of changing the collective outcomes.

The positive sign of the coefficient of \( EXRE \) suggests that homeowners who believe that their neighbours will reciprocate expect more benefits than costs from housing management activism, whereas this is not true of those who do not believe that their neighbours will reciprocate. Moreover, \( PART \) increases with \( COHE \), indicating that homeowners who perceive stronger cohesion among the co-owners in their buildings are more active

| Characteristic               | Count (n = 346) | Percentage (%) |
|-----------------------------|----------------|----------------|
| Gender                      | Male           | 201            | 58.1          |
|                             | Female         | 145            | 41.9          |
| Age                         | 18–24 years old| 21             | 6.1           |
|                             | 25–34 years old| 47             | 13.6          |
|                             | 35–44 years old| 96             | 27.7          |
|                             | 45–54 years old| 108            | 31.2          |
|                             | 55–64 years old| 56             | 16.2          |
| Education level             | Primary school or below | 41          | 11.8          |
|                             | Lower secondary school | 8       | 2.3           |
|                             | Upper secondary school | 73      | 21.1          |
|                             | Matriculation   | 37             | 10.7          |
|                             | Sub-degree post-secondary education | 78 | 22.5 |
| Household income            | Bachelor degree or above | 109      | 31.5          |
|                             | HK$9999 or below | 43             | 12.4          |
|                             | HK$10,000–14,999 | 82            | 23.7          |
|                             | HK$15,000–19,999 | 99            | 28.6          |
|                             | HK$20,000–24,999 | 73            | 21.1          |
|                             | HK$25,000–29,999 | 25            | 7.2           |
|                             | HK$30,000 or above | 24            | 7.0           |

* Note: The percentages for each characteristic may not sum to unity because of rounding.
participants. Both variables gauging the collective efficacy of the ‘homeowners’ groups’ have an influence on individual homeowner decisions regarding housing management activism. These results confirm Weible’s (2008) proposition that a group’s collective efficacy shapes individual members’ expectations, which in turn determines their participation (and non-participation).

Selective cost measures how the typical demographic variables considered in other studies fit into the CIM for housing management activism. Although gender has no significant effect on housing participation level, better-educated and older homeowners engage more actively in housing management affairs. Interestingly, the estimated coefficient of HINC is negative, but it is not significant even at the 10% level. That means that income shows no effect on housing management activism. This is probably because the higher opportunity costs of participation for high-income offset the benefits.

The analysis results indicate that both selective benefit variables are positively correlated with the level of housing management activism. The estimated coefficient of the variable MVAL is significant at the 1% level, and the coefficient of the variable LIFE is significant at the 5% level. Nevertheless, there is no statistical difference between the magnitudes of the two coefficients at the 5% level, indicating that the two variables are of nearly equal importance. As one can infer from these results, homeowners who are more active in housing management affairs tend to value the collective good of better housing management higher at the same time, expressive benefit is a strong motivator for housing management activism.

There are several important points that emerge from these results. First, as far as the sustainable management of the housing stock is concerned, routine maintenance and timely rehabilitation are more preferable to demolition and rebuilding because the former methods are more economical, environmentally friendly and socially favourable (Jones & Clements-Croome, 2004; Yau & Chan, 2008). However, the empirical findings of this study suggest that although self-perceived personal influence affects the likelihood of housing management activism, homeowners will participate only if they are dissatisfied with housing management outcomes. These findings reflect the reactive nature of these homeowners to housing problems: as long as they can tolerate existing housing management outcomes, they continue letting others do the work for them. This free-riding dogma essentially creates a deadlock in building care in Hong Kong.

Secondly, in decisions regarding participation, perceived group efficacy in achieving a desirable outcome is important. A homeowner will not participate in housing management if he or she regards other homeowners as free-riders. In addition, homeowner participation will be unlikely if the individual in question thinks that the group cannot work effectively to achieve better housing management for the building. In other words, participation decisions depend very much on the individual homeowner’s perceptions of his or her neighbours. Even when a person thinks that he or she is capable of making a change, his or her participation may be in vain if other homeowners do not participate or cannot work well with each other. This observation actually echoes the views of Bengtsson (1998, 2000) who comments on the resident dynamics of housing management. Predictions regarding others’ behaviour determine homeowner actions.

Last but not least, despite the insignificant coefficients of the variables MALE and HINC, the analysis results generally support the expectations of the CIM. The expected value of participation not only depends on selective interests and the cost of participation, which are private but also rests on the perceived value of the collective good to be produced and the chances of success in providing the good. As deduced from the analysis results, an individual homeowner will choose to participate in housing management under the following conditions:

1. If the homeowner perceives that his or her selective cost of participation exceeds the selective benefit and if the expected collective interest is greater than the negative net selective benefit; or
2. If there is zero expected collective interest and the net selective benefit perceived by the homeowner is positive.

On this basis, we can offer insight into how the housing mismanagement problem in Hong Kong might be resolved. Given that the selective costs of participation are relatively fixed, we can boost the expected value of housing management activism by increasing either the selective benefits of participation or the collective interests. In the first approach, institutional arrangements or economic incentives can play a role. Currently, if the majority of homeowners at an owners’ meeting come to a consensus (e.g., a decision to upgrade the elevator system), the minority may not participate. The owners’ corporation can only bring the case to court to bring the uncooperative owners in line. Since this method is often too costly and time-consuming, it is not used very often. The resolution in question will then be discarded or simply put on hold. This frequently occurs and is a major reason why plans for improving building conditions or management are suspended. Legislation can be developed to punish uncooperative owners or those who do not participate even if the majority of homeowners in a building collectively agreed. This tactic increases the costs of free-riding, which indirectly increases the selective benefits for those who participate in housing management.

The government can also educate homeowners about the economic benefits of better housing management (e.g., higher

Table 4
Mean responses by the surveyed homeowners before rescaling.

| Variable | Range | Mean ± σ |
|----------|-------|-----------|
| PART     | 0 – very frequently | 2.26 ± 0.77 |
| EXRE     | 1 – strongly disagree | 3.12 ± 0.99 |
| COHE     | 1 – strongly disagree | 2.86 ± 1.17 |
| INFL     | 1 – strongly disagree | 3.24 ± 1.01 |
| DISC     | 1 – very satisfied | 3.11 ± 0.74 |
| MALE     | 0 – female; 1 – male | 0.58 ± 0.49 |
| AGE      | 1 – 18–24 years old | 3.53 ± 1.23 |
| EDU      | 1 – primary school or below | 4.24 ± 1.67 |
| HINC     | 1 – HK$9999 or below | 3.08 ± 1.36 |
| MVAL     | 1 – strongly disagree | 3.44 ± 1.10 |
| LIFE     | 1 – dislike very much | 3.23 ± 1.03 |

Table 5
Estimation results of the OLS analysis.

| Variable | Coefficient | Standard error | t-statistic | p-value |
|----------|-------------|----------------|-------------|---------|
| Constant | -0.1790     | 0.1755         | -1.0200     | 0.3085  |
| Collective interest variables | | | | |
| EXRE     | 0.1373      | 0.0276         | 4.9670      | 0.0000  |
| COHE     | 0.0923      | 0.0214         | 4.3139      | 0.0000  |
| INFL     | 0.1761      | 0.0456         | 3.8641      | 0.0001  |
| DISC     | 0.1840      | 0.0474         | 3.8795      | 0.0001  |
| Selective cost variables | | | | |
| MALE     | -0.0166     | 0.0449         | -0.3700     | 0.7116  |
| AGE      | 0.1582      | 0.0245         | 6.4505      | 0.0000  |
| EDU      | 0.0932      | 0.0179         | 5.2038      | 0.0000  |
| HINC     | -0.0153     | 0.0198         | -0.7730     | 0.4401  |
| Selective benefit variables | | | | |
| MVAL     | 0.1142      | 0.0288         | 3.9593      | 0.0001  |
| LIFE     | 0.0997      | 0.0439         | 2.2688      | 0.0239  |
| Dependent variable: PART | Number of observations: 346 |
| R-squared: | 0.7164      | Adjusted R-squared: | 0.7080 |
| Akaike info criterion: | 1.1130       | Durbin–Watson statistic: | 2.0510 |
| F-statistic: | 84.6307     | p(F-statistic): | 0.0000 |
property rental values and shorter downtime for services) and economic losses that can arise from housing mismanagement (e.g., higher medical costs and huge damages payable to the victims of building-related accidents). However, it is sometimes difficult for the average homeowner to visualise the association between housing management performance and property value because with the exception of physical conditions, the various performance aspects of housing management (e.g., financial management and dispute resolution) are not easily observable by outsiders. Therefore, assessment schemes for benchmarking the overall performance of housing management should be devised and implemented for all apartment buildings in Hong Kong. This step would make additional information available to the market and create a ‘league of value’ in the form of higher-scored properties that should command a higher rent or value. With a view toward the potential economic benefits, homeowners may perceive greater value in housing management and may be more likely to participate actively in housing management.

Another approach would be to enhance collective interests by reinforcing social bonding among homeowners. If a strong sense of community and cohesion exists among neighbours within a building, homeowners may hold very similar values regarding housing management. As a result, each of them will expect a greater degree of reciprocity from the other and a close working relationship will be there to keep their building a pleasant place to live. The government and owners’ associations can help amplify the collective or group efficacy in achieving the collective good by fostering long-term partnerships among homeowners. More supports or subsidies should be offered by the government and owners’ associations to organise social gatherings and activities which can bring homeowners together. Mechanisms like mediation should also be put in place to resolve disputes or conflicts between homeowners in an amicable and non-destructive manner. Otherwise, a long-term relationship cannot be ensured.

Conclusion

A high-density urban setting is economically efficient because it maximises the use of communal facilities and services. On the other hand, it may potentially create health and safety risks for the community because there is a strong link between the built environment and people’s state of health. Another drawback of high-density living environments is the predominance of high-rise multi-family buildings, the management of which can be particularly difficult. Co-ownership arrangements in these buildings create a need for collective action among homeowners in order to achieve effective housing management. Nevertheless, because its outcome is a public good, housing management is always subject to the free-riding problem. In investigating the dilemma of collective action among homeowners, this article uses the CIM to investigate the benefit-cost expectations associated with participation in the management of apartment buildings in Hong Kong. Based on the analysis results, key elements of the CIM—the perceived value of housing management outcomes, personal efficacy, group efficacy, selective costs and selective benefits—were found to be directly and positively related to the level of housing management activism.

This study establishes the relevance of the CIM as an explanatory framework for homeowner participation in housing management. The findings of this study can have a positive impact on housing management policy-making in Hong Kong and can also offer insight into the sustainable management of the housing stock in other megacities. Additionally, this study should stimulate more research on the dilemma of collective action for homeowners. It may be very interesting to further explore whether homeowner activism is sensitive to the existence of owners’ associations and the involvement of PMAs. It would also be worth studying how government policies or schemes adjust the decision calculus of homeowners. Moreover, given the rise of urban activism (e.g., in fights for public open spaces or heritage conservation) in many Asian cities in recent years, the applications of the CIM might include future analyses of the behaviour associated with community participation.

Acknowledgements

The work described in this paper was supported by the Start-up Grant for New Staff from City University of Hong Kong (Project No. 7200123). The author would also like to express gratitude to the student assistants at City University of Hong Kong for their assistance with the data collection process.

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