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Explaining the outcomes of multi-owned housing management: A collective action perspective

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ABSTRACT

The construction of multi-owned housing (MOH) is often viewed as a step towards built environment sustainability. However, this view does not hold true if MOH developments are improperly managed by their owners. The existing research studies conclude that the quality management of an MOH development hinges on its owners' collective efforts. But the findings are divided over why one MOH development is successfully managed by its owners while another one is not. This paper aims to fill the research gap. From a collective action perspective, it first synthesized the key exogenous factors of MOH management. It then investigated the relationship between the factors and MOH management outcomes using survey data. The paper found that apart from the physical features of an MOH development (e.g. development age and scale), the attributes of the owner group (e.g. group size and agent) and the institutions governing the development management (e.g. deed of mutual covenant) played an important role in shaping the management outcomes. These findings have far-reaching implications for housing management policies intended to motivate MOH owners to take good care of their properties.

1. Introduction

Multi-owned housing (MOH) generally refers to residential properties governed by a mix of communal and individual property rights. It includes, but is not limited to, condominiums, strata titled developments, apartment buildings, housing cooperatives, common-interest developments, and master-planned estates. In recent decades, MOH has sprung up all around the world. For instance, in the U.S., the number of people living in common-interest developments rose from 2.1 million to 62 million between 1970 and 2010 (Meltzer & Cheung, 2014). In Australia, the percentage of apartment buildings has increased since the 1960s (Randolph & Tice, 2013). In China, condominiums have become the predominant housing type since the 1978 housing reforms (Wang, 2013). The worldwide proliferation of MOH has attracted great attention from scholars. Numerous research projects have been carried out to study the economic, social, and environmental impacts of MOH on built environments.

In the research on MOH, one interesting area is MOH management. Here, MOH management is defined as the management of various activities arising from the use or occupation of [an] MOH development, such as cleaning, security, financial management, and maintenance. Unlike the management of a single-ownership dwelling, which is decided by its sole owner, the management of an MOH development usually involves multiple owners and depends highly on the owners' collective actions (Yau, 2010, 2013). At first glance, collective action is not an issue for the owners, since they share some common interests. For instance, all the owners would be benefited if the development conditions are maintained or improved by quality management. But, in practice, common interests alone are not enough to secure owners' actions which could be jeopardized by other unfavorable factors, such as owners' misunderstanding of management responsibilities, their divergent management preferences, and their temptation to free-ride (Yau, 2011, 2014). As a result of a series of unsuccessful actions, management works would be delayed or even canceled, which leads to building disrepair and has adverse effects on the development's habitability.

The importance of owners' action has been fully recognized by researchers. To help owners to solve collective action problems, some researchers have advocated a centralized approach, which requires an agent (e.g. owner committee, property manager) to be

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engaged in owners' action (Chu, Chang, & Sing, 2012; Walters & Kent, 2000; Hastings, Wong, & Walters, 2006; Yiu, Wong, & Yau, 2006). These researchers argue that an agent can use knowledge and professional skills to mobilize and coordinate owners to cooperate, thereby contributing to its success. Other researchers have recommended a communitarian approach, which draw support from selective incentives, such as social norms, mutual trust, and friendship (Bengtsson, 2001; Wu, 2012; Yau, 2012). They point out that selective incentives can ease the free-riding problem and build up a cooperative environment among owners. Still others have proposed a coercive approach, which resorts to management institutions mandated by the authorities (Bailey & Robertson, 1997; Chan & Choi, 2015; Paulsson, 2010). They posit that the fear of being punished for non-cooperative behaviors would stimulate owners to work together.

Despite the previous research efforts, the insights into owners' actions and their role in MOH management are still inadequate. First, the majority of these studies were either constructed around theoretical arguments or based on case studies. Few empirical studies have been done to answer the question: *Why does one owners' group succeed in the collective management of its MOH development, while another one fails?* With only a partial understanding of this question, one cannot say that the proposed solutions to owners' action problems will be effective. Second, the previous studies have paid insufficient attention to the impact of development features. Since development features constitute the arena in which its owners should act, it is highly possible that certain features are, more or less, favorable for owners' action (Zhu, 2015). With knowledge of these features, one could promote owners' action through proper building design. Third, the existing literature points out that the success of an owners' action is conditioned by many factors. Unfortunately, no study has been done to synthesize those factors.

To bridge the above research gap, this paper is organized as follows. First, it synthesizes the key exogenous factors of MOH management with reference to an analytic framework. Second, it conducts empirical analyses to investigate the relationship between the factors and MOH management outcomes. Third, it presents a detailed discussion of the research findings and their implication for housing management policy.

2. Analytical framework for studying MOH management

A good framework is a kind of scaffolding which underpins the whole enquiry of a study. It allows researchers to identify the universal elements and explore the general relationships among those elements by utilizing any theories relevant to the phenomenon in question. The institutional analysis development (IAD) framework is such a kind of framework. The IAD framework was developed by Kiser and Ostrom and advanced by other researchers [cited in Ostrom (2011)]. In general, it is a multi-tier conceptual map for the analysis of collective actions in common pool resource management. Its central idea is to consider a collective action as an arena where individual resource users are called upon to decide on whether they contribute to the action or not. Specifically, the IAD framework focuses on exgenous factors which exert their influence on individual users' decision-making processes. It argues that there are several ways in which an exgenous factor can play its role. One basic way is by promoting or prohibiting users' ability to accomplish the action; and the other is by manipulating their perception of possible gains and losses from the action. The framework classifies exgenous factors into three general categories, namly physical features of resource, attributes of user group, and institutions governing the resource management (McGinnis, 2011). It points out that researchers can investigate the relationship between the factors and action outcomes with predetermined evaluative criteria – see Fig. 1.

Over the past two decades, the IAD framework has attained significant theoretical status and wide application in the research on common pool resource management, such as irrigation systems, forestry, pastures, fisheries, and land (Liu & Yau, 2014). It has also been employed to examine management issues in MOH developments. Some examples of such work are Walters and Kent (2000) and Ho and Gao (2013). Given the fact that an MOH development is a man-made common pool resource and its management is contingent on the owners' collective efforts (Ho & Gao, 2013), it is viable for this study to explain the variation in MOH management outcomes by utilizing the IAD framework. The following paragraphs give more details.

2.1. Physical features of an MOH development

A physical feature is related to owners' action if it can shape the action outcome in at least one of the following ways. The first way is by mediating individual owners' perceptions of the possible benefits to be got from the action; and the second is by limiting owners' choices of technology available to accomplish the action (Ostrom, 2007). One physical feature is *development location*. This affects owners' action through the first way. For instance, empirical studies have disclosed that dwellings in prime areas tend to be sold/rented at higher prices than those in subprime areas, holding other factors constant (Jim & Chen, 2010; Sirmans, Macpherson, & Zietz, 2005). Such a locational premium may encourage an owner to participate more in the collective management of the property if it is located in better neighborhoods, *ceteris paribus*. Another physical feature is *development scale*. This affects owners' action through the second way above. Taking security management as an example, a large development usually requires a team of security staff to patrol the common areas, while a small one can get the job done by hiring one or two security guards. One can see that development scale is a factor that prudent owners would consider when they are tasked with accomplishing a management activity. Yet another physical feature is *development age*, which influences owners' action through both ways. Consider the following scenario. As a development ages, its remaining service life decreases, but the required amount of management work increases. In that situation, its owners may discount heavily on the future gains from contributing to the management. Besides, they may encounter increasing technical difficulties when trying to restore or upgrade the function of the aging development. Thus, they may become unwilling to participate in the development's management.

2.2. Attributes of an owner group

A group attribute is relevant to owners' action if it can impact the action by influencing individual owners' perception of group efficacy, altering transaction costs associated with the action, or changing the total amount of resources (e.g. money, skills) available for the action (Yau, 2011, 2014). *Group size* is one of the group attributes. As the size of an owner group increases, the cultivation of a sense of group efficacy becomes more difficult due to the diminishing opportunity for owners to interact with each other; transaction costs would rise since more effort needs to made to mobilize and coordinate owners (Walters, 2002); more resources could be brought to the action table by newly-admitted group members. *Group heterogeneity* is another group attribute. As more heterogeneous an owner group is, more negative owners' group efficacy will become because of the increasing difficulty in settling differences; transaction costs would surge when owners try to reconcile their divergent interests (Yip & Forrest, 2002). *Group agent* is a third