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## The Design of an Online Roommate Finding System for Property Management Portals—the Virtual Community Perspective

(Abstract)

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### ABSTRACT

With the evolution and diffusion of the internet at the society level, various business sectors have been transformed and redesigned with the new technologies such as enterprise systems, social media, virtual communities, social commerce, and business intelligence. For example, most fortune 500 companies have installed ERP system by 1998 (Magal & Word, 2012), resulting in major manufacturing and traditional businesses to re-design their business processes. The travel industry has been disrupted by the online booking system such as booking.com and TripAdvisor.com (Mellinas, Martínez María-Dolores, & Bernal García, 2015). Many bookshops have been closed because of the operations of online booking stores such as Amazon (Pitt, Berthon, & Berthon, 1999). The emerging smart city research also implies that the transformation by the digital technology is at the national and city level into all sectors including transportation, energy, water etc (Paroutis, Bennett, & Heracleous, 2014). In the property management sector, various property management portals have been established to facilitate the estate agencies to manage properties and the customers to find suitable properties. The typical examples are zoopla.com and rightmove.com, both of which are specialized in one-stop property renting and selling in the United Kingdom. At the same time, there are also many small property management agencies who operate the independent property management platforms.

The traditional property management portal normally consists of three key functions, property listing and management for agencies; property browsing and appointment booking for customers; and the property information integration including neighbourhood, billing, local tax etc. While the traditional property management system has satisfied the great needs for estate agencies and focus heavily on the information of the properties themselves, the customer experience has mainly ignored from the traditional design of the website. Practically, there is a need to bring the most recent knowledge of improving online shopping experience into the property management system design. This paper proposed a new business model for property management portals by designing an online roommate finding system with the virtual community theory. Specifically, the virtual community concept is used to design the online roommate system from the interpersonal relationship perspective.

The proposed online roommate finding system is designed based on the interpersonal relationship framework (Li & Lee, 2013) and borrowed the concept and algorithm of the online recommendation system (Jiang, Shang, & Liu, 2010). Specifically, the following functions are implemented for the online roommate finding system so that a renting community emerges from the rental portal, the profile information of each tenant, the desired roommate features including personality, age, country, native language, etc, and the inside communication channels. The proposed online roommate finding system is going to be integrated into the existing online property management portal in UK. The action research method will be used to test the effectiveness of the online roommate finding system from 3 stages for 3 years, stage one is for the system testing, stage 2 is for community member recruitment, stage 3 is for operations of the system for profit generation. The current project is in the early phase of stage 1 and the requirements analysis is finished.

*Keywords:* Property management portal, virtual communities, e-business, recommendation system, roommate finding.

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