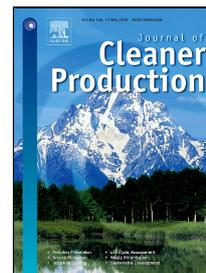


Accepted Manuscript

Behaviour change in post-consumer recycling: applying agent-based modelling in social experiment



Xin Tong, Igor Nikolic, Bob Dijkhuizen, Maurits van den Hoven, Melle Minderhoud, Niels Wäckerlin, Tao Wang, Dongyan Tao

PII: S0959-6526(18)30942-9
DOI: 10.1016/j.jclepro.2018.03.261
Reference: JCLP 12519
To appear in: *Journal of Cleaner Production*
Received Date: 14 June 2017
Revised Date: 14 December 2017
Accepted Date: 25 March 2018

Please cite this article as: Xin Tong, Igor Nikolic, Bob Dijkhuizen, Maurits van den Hoven, Melle Minderhoud, Niels Wäckerlin, Tao Wang, Dongyan Tao, Behaviour change in post-consumer recycling: applying agent-based modelling in social experiment, *Journal of Cleaner Production* (2018), doi: 10.1016/j.jclepro.2018.03.261

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

6419 words

Behaviour change in post-consumer recycling: applying agent-based modelling in social experiment

Xin Tong¹; Igor Nikolic²; Bob Dijkhuizen²; Maurits van den Hoven²; Melle Minderhoud²;
Niels Wäckerlin²; Tao Wang¹; Dongyan Tao¹

(1 College of Urban and Environmental Sciences, Peking University, Beijing 100871, China

2 Technology, Policy and Management, Delft University of Technology, 2600 AA Delft, The Netherlands)

Abstract

Change in consumer behavior that leads to increased waste separation and recycling has been identified as a critical component of Chinese national strategy for constructing a “Circular Economy”. Various innovative solutions at community level targeting consumer behaviors are emerging in Chinese cities, using information technology that can track the volume and quality of the sorting process. In order to evaluate the potential impact of these novel solutions, we studied the behavioral change of households by initiating an experimental recycling program in a residential community in Beijing, and developed an Agent Based Model based on Theory of Planned Behavior (TPB) to identify key factors in changing behavior. The results show that the Social Norm (SN) has a decisive effect on whether an area starts recycling or not. As to the effectiveness of intervention, the Perceived Behavioral Control (PBC) plays a large role in the determination of the recycling behavior in this study, while the role of attitude is relatively small. The model outcomes can be corroborated with observations in different communities using similar technical solutions. In conclusion, we suggest that efficient local interactions among various stakeholders are needed in forming the social norm and common space that favorite recycling activities at the community level.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات