



Combining predictive modeling and operational insights for effective online and face-to-face recruitment in urban and rural China

Yu-chieh (Jay) Lin¹, Teresa (Ye) Jin², Shu Duan² & Jennie Lai²

¹Institute for Social Research, University of Michigan, Ann Arbor, MI 48104, USA

²Nielsen, 501 Brooker Creek Blvd, Oldsmar, FL 34677, USA

Introduction

BACKGROUND:

Nielsen establishes a nationwide **Home Scan Consumer Panel Service** in 2011 to measure fast moving consumer goods (FMCG) that households purchase in China using a dual-mode survey technique of recruiting households **face-to-face** as well as **online**. Nielsen statistical research team designed the quota sample to ensure proportional distribution of demographic variables for face-to-face and online mode for all cities.

RESEARCH PURPOSE:

Based on the analyses for demographics of recruited households and dropped households, the goal of this study is to identify what kind of main purchasers are more likely to drop by recruitment methods and by different tier of cities. The secondary purpose is to shed light on how the predictive modeling can be incorporated into panel household recruitment and maintenance using different strategy in terms of recruitment mode and the geographic location.

Methodology & Data

SAMPLE SIZE:

The **Home Scan Consumer Panel Service** recruited households since mid July 2011 and **35,276 households** were recruited across China by the end of June 2012.

URBAN vs. RURAL:

The **urban (K & A city)** and **rural (B, C & D city)** areas were defined based on Chinese government's five classifications of Chinese city tiers (K, A, B, C and D) in terms of the economy scale, population size, and development of services and infrastructure.

RESPONDENTS:

Only the **main purchaser of households** is the qualified respondent in recruitment and they are required to complete **Recruitment Household Survey** in order to complete the recruitment. Upon completion of household recruitment and screening process by statistical research team, local field interviewers would visit the households for placement of the **hand-held scanner** and recommend the household to be part of the panel for at least 6 months. In return, the households can redeem a variety of gifts based upon point accumulated reward system.

ANALYSIS PLAN:

The research compared the demographic characteristics of recruited households by recruitment mode (face-to-face vs. online) in urban and rural area. Secondly, **Pearson Chi-Square Test** with 0.05 significant level was applied to measure the independence between demo and lifestyle of the panel households and panel status (active vs. drop) by recruitment mode and geographic location. The demographic characteristics that significantly associate with the panel status were identify in the results.

Results: Panel Recruitment & Attrition

Households Recruited (35,276 households)			Face-to-Face (25,422 households)	Online (9,854 household)
Urban (K & A City) (22,478 households) <ul style="list-style-type: none"> Face-to-Face (14,481 households) Online (7,997 households) 			<ul style="list-style-type: none"> The main purchaser : <ul style="list-style-type: none"> Female, Older age group (> 40 years old), Having senior high school degree, Retired, Usually shopping at the stall on the street, or having a pet (cat, dog, bird or others). The annual household income is less than RMB 60,000. 	<ul style="list-style-type: none"> The main purchaser: <ul style="list-style-type: none"> Female, Younger age group (<40 years old), More educated (with diploma or bachelor's degree), Working in the corporation management or non-management field, Having a debit or credit card, having a laptop, desktop, MP3/iPod player, or smartphone. The annual household income is larger than RMB60,000.
Urban Households with the Hand-held Scanner Installation (18,172 households)			What are demographic characteristics of households which tended to <u>drop</u> from the panel?	
	Face-to-Face	Online	<ul style="list-style-type: none"> On average, the recruited household dropped 115 days after the hand-held scanner was installed. The main purchaser: <ul style="list-style-type: none"> Age < 30 or > 60, Less educated (primary school or less) or more educated (master's degree or above), Student. The annual household income is < RMB10,000 or > RMB200,000. 	<ul style="list-style-type: none"> On average, the recruited household dropped 140 days after the hand-held scanner was installed. The main purchaser: <ul style="list-style-type: none"> Female, age < 30, Less educated (primary school or less), Unemployed or student. The annual household income is about RMB20,000-40,000.
Active	8,498	5,013		
Drop	3,385	1,276		
Rural (B, C, & D City) (12,798 households) <ul style="list-style-type: none"> Face-to-Face (10,941 households) Online (1,857 households) 			<ul style="list-style-type: none"> The main purchaser: <ul style="list-style-type: none"> Female, Older age group (> 40 years old), Having senior high school degree, Self-employed, Usually shopping at the stall on the street, Having pets. The annual household income RMB20,000-40,000. 	<ul style="list-style-type: none"> The main purchaser: <ul style="list-style-type: none"> Male, Younger age group (<40 years old), More educated (with diploma or bachelor's degree), Working in corporation management or non-management field, Having a debit or credit card, has a laptop, desktop, MP3/iPod player, or smartphone. The annual household income RMB40,000-60,000,.
Rural Households with the Hand-held Scanner Installation (8,323 households)			What are demographic characteristics of households which tended to <u>drop</u> from the panel?	
	Face-to-Face	Online	<ul style="list-style-type: none"> On average, the recruited household dropped 94 days after the hand-held scanner was installed. The main purchaser: <ul style="list-style-type: none"> Older age group (> 40 years old), Less educated (primary school or less), Government management or retired. The annual household income is < RMB 10,000. 	<ul style="list-style-type: none"> On average, the recruited household dropped 82 days after the hand-held scanner was installed. The main purchaser: <ul style="list-style-type: none"> Female.
Active	6,903	1,094		
Drop	298	28		

Note: All demographic characteristics listed above are with p-value less than 0.05 (Pearson Chi-Square Test).

Discussion & Recommendation

Panel recruitment is just the beginning of panel management. Efficient panel attrition is tied with panel households' cooperation, data quality and optimize recruitment efforts. Understanding what kind of panel households are more likely to drop will help operation team to improve panel management in terms of field team training, materials, and on-going communication. Based upon the key findings from this study, field team should consider tailored method/strategy in panel recruitment and maintenance to adapt the needs of households who recruited from different mode and located in different geographic location. Especially China is not a homogeneous market, applying different ways in recruitment design and operational management should be taken into consideration.

Face-to-Face	Online
<ul style="list-style-type: none"> Concentrate more on recruitment techniques and communication skills during field team training and enhance maintenance using well-designed incentive structure, especially for older and less educated population, or households with lower annual income. 	<ul style="list-style-type: none"> Online mode is essential component in multi-mode approach but can't be only mode. Enhance maintenance using well-designed incentive structure, especially for female main purchaser of households.