

Generative Search: Evidence from a Large-Scale Field Experiment

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Online Appendix

A Meituan APP

Figure A1. The First Page of Meituan APP

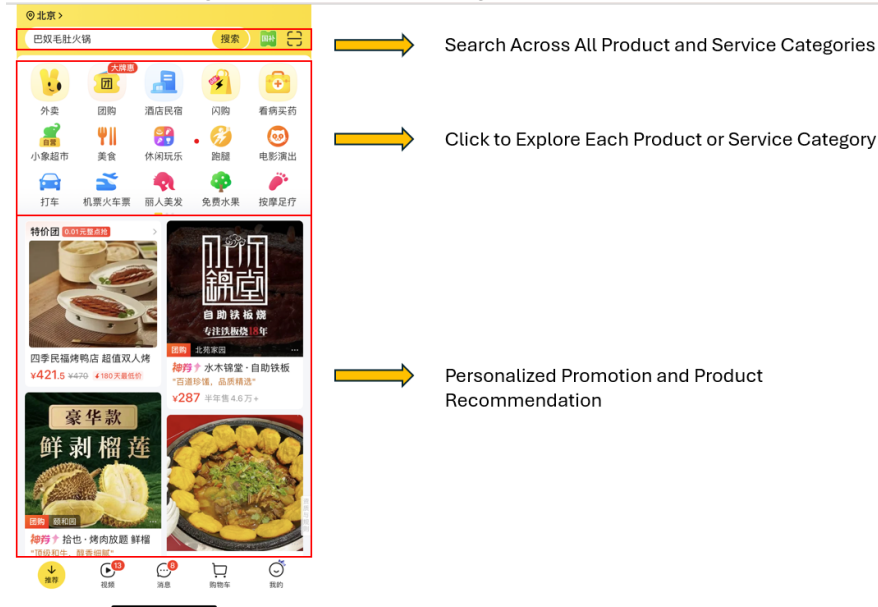


Figure A2. Consumer Shopping Process

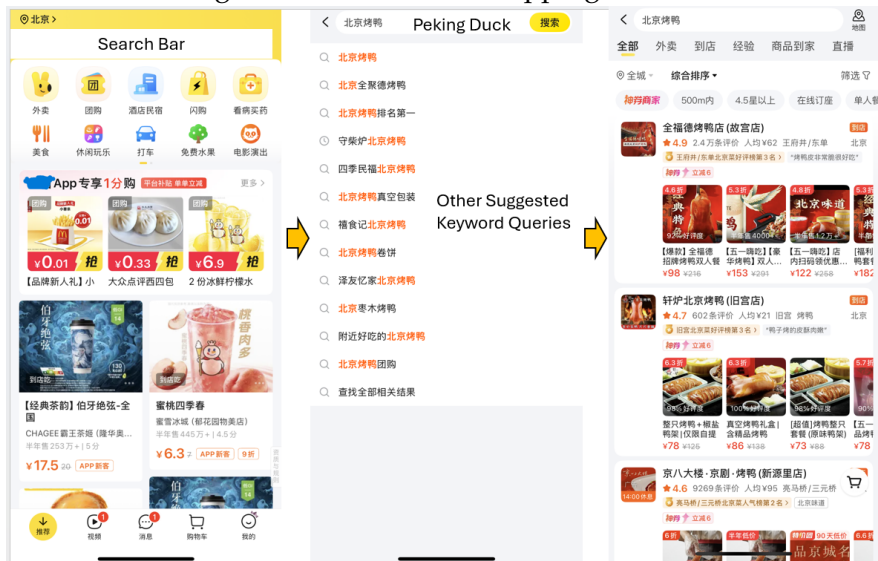
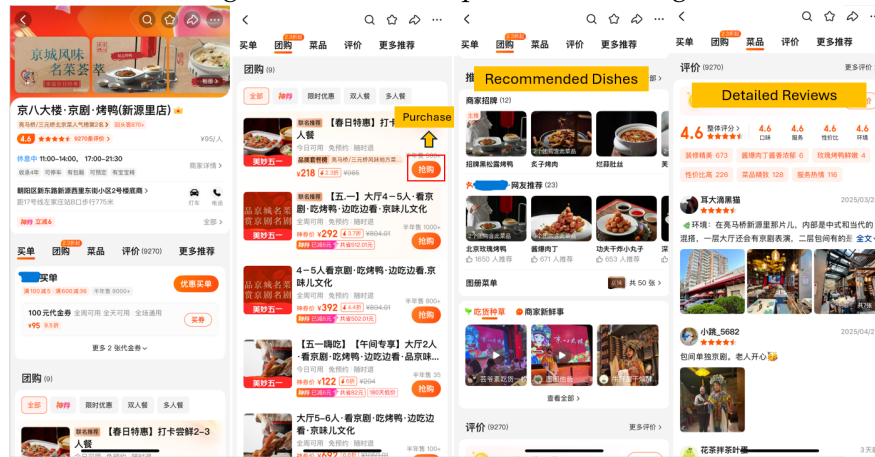


Figure A3. An Example Merchant Page



B GenAI-generated Answers Examples

- **Example 1:**

Intention-expressing search query: Restaurants suitable for birthday celebrations in Beijing

GenAI-generated Answers: In Beijing, there are numerous restaurants suitable for birthday celebrations, combining aesthetically pleasing environments, delicious cuisine, and attentive service. Rouwenwu: A Japanese-style barbecue restaurant located in Xidan, with an average consumption of 200 RMB. Featuring a strong Japanese ambiance and elegant decor, the restaurant offers complimentary longevity noodles and desserts for birthday celebrations, accompanied by thoughtful service. K Thai • Starry Tent Restaurant • Hong Kong Hot Pot: Situated in Sanlitun, this internet-famous restaurant is renowned for its romantic ambiance and signature dishes such as abalone, sea cucumber, and fish maw chicken hot pot. Ideal for photography and gatherings, it is particularly suitable for birthday parties among friends. Sashibi Western Cuisine: Specializing in Mexican cuisine, this restaurant is located at No. 74 Wudaoying Hutong, Andingmen, Dongcheng District, with an average consumption of 93 RMB. The elegant atmosphere, combined with in-house facilities like TVs, gaming consoles, and board games, makes it perfect for young adults' gatherings.

- **Example 2:**

Intention-expressing search query: Which beverages from Heytea are considered to be the most palatable?

GenAI-generated Answers: The following beverages are repeatedly highlighted across various reviews and user feedback as popular choices at Heytea: The "Fleshy" Fruit Series: Beverages such as Fleshy Grape and Fleshy Mango Pomelo Sago are favored by many customers for their generous fruit content and refreshing taste. The Cheese Foam (Zhizhi) Series: These fruit teas topped with a layer of cheese foam combine the light sweetness of fruit with the savory creaminess of cheese, offering a balanced and multi-layered flavor experience. Special Recommendation: For those who enjoy distinctive flavors, the Hot Taro Bobo Milk is worth trying. This drink stands out for its rich and creamy taro taste, offering a warm and indulgent sensory experience.

- **Example 3:**

Intention-expressing search query: Places of interest in Xi'an

GenAI-generated Answers: Appreciate chime bell performances at the Bell Tower and savor delicacies in the Muslim Quarter. Watch owl doll shows and taste biangbiang noodles in Datang Ever-bright City. Overlook the night city from the Big Wild Goose Pagoda and admire the musical fountain. Explore Xiaozhai Seg Shopping Center and walk to the Big Wild Goose Pagoda. Xi'an, equipped with transportation hubs like Xi'an North Railway Station and Xi'an Xianyang International Airport, ensures convenient travel for visits to this ancient capital.

C Additional Analysis of the Subsample

In this section, we present additional analyses conducted using the subsample. In Table A1, we provide the randomization check results for the sub-sample ($N = 90,000$), along with the group means for gender, bachelor's degree, university-student status, and discount-promotion sensitivity, as well as the distribution across levels for total earnings, recent purchase frequency, and consumption level, together with p-values from randomization checks.

Table A1. Randomization Check ($N = 90,000$).

Consumer Traits	Treatment	Control	P-value
Gender (Male = 1)	0.414	0.412	0.750
Bachelor's Degree or Higher (Has = 1)	0.670	0.668	0.617
University Student (Yes = 1)	0.042	0.040	0.197
Sensitivity to Discount Promotions	0.527	0.529	0.384
Total Earnings (Level = 0)	0.406	0.403	0.538
Total Earnings (Level = 1)	0.562	0.565	
Total Earnings (Level = 2)	0.024	0.025	
Total Earnings (Level = 3)	0.007	0.007	
Recent Purchase Frequency (Level = 0)	0.049	0.048	0.173
Recent Purchase Frequency (Level = 1)	0.183	0.185	
Recent Purchase Frequency (Level = 2)	0.117	0.117	
Recent Purchase Frequency (Level = 3)	0.408	0.406	
Recent Purchase Frequency (Level = 4)	0.139	0.136	
Recent Purchase Frequency (Level = 5)	0.104	0.109	0.327
Consumption Level (Level = 0)	0.063	0.065	
Consumption Level (Level = 1)	0.178	0.175	
Consumption Level (Level = 2)	0.118	0.121	
Consumption Level (Level = 3)	0.212	0.208	
Consumption Level (Level = 4)	0.319	0.320	
Consumption Level (Level = 5)	0.111	0.112	

Notes. The table reports, for the sub-sample ($N = 90,000$), group means for gender, bachelor's degree, university-student status, and discount-promotion sensitivity, as well as the distribution across levels for total earnings, recent purchase frequency, and consumption level, together with p-values from randomization checks. Differences in the first set of variables are assessed using Welch's t-tests, while the ordinal variables are evaluated using Pearson's chi-squared tests for equality of distributions.

Table A2. Generative Search Effects on Purchases.

	(1)	(2)	(3)	(4)
Generative Search	0.0224***	0.0021***	0.1767***	0.0165***
	(0.0061)	(0.0004)	(0.0478)	(0.0035)
Observations	90,000	90,000	90,000	90,000

Notes. The table reports estimates of the effects of generative search on purchases using the 90,000-user subsample. The dependent variables are (1) number of orders (ITT), (2) order rate (ITT), (3) number of orders (ATT), (4) order rate (ATT). Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

In Table A2, we report the effects of generative search on consumer purchases using the

90,000-user subsample. Column (1) presents the ITT on the number of orders (log-transformed), while Column (2) reports the ITT on the order rate. Column (3) presents the ATT on the number of orders (log-transformed), while Column (4) reports the ATT on the order rate. The ATT estimates are obtained by instrumenting actual exposure with treatment assignment. Consistent with the full-sample results, generative search significantly increases consumer purchases in this subsample under both ITT and ATT. As expected, the ATT estimates exceed the ITT estimates.

Table A3. Effect of Generative Search on Consumer Search Behavior (ATT).

Outcome Variables	Effect	Standard Error
Number of Sessions	0.0708	(0.0523)
Total Stay Time	-0.2933**	(0.1156)
Number of Search Queries	0.1046*	(0.0610)
Number of Distinct Search Queries	0.1064*	(0.0597)
Number of Intention-Expressing Search Queries	-0.0663***	(0.0238)
Number of Keyword-Based Search Queries	0.1037*	(0.0614)
Number of Sessions with Intention-Expressing Search Queries	-0.0540***	(0.0186)
Number of Browsed Merchants	-0.1493*	(0.0823)
Number of Browsed Merchant Categories	-0.1259*	(0.0714)
Number of Browsed Merchants Per Category	-0.1467	(0.1045)
Number of Total Clicks	-0.0587	(0.0768)
Number of Unique Clicked Merchants	-0.1805**	(0.0740)
Number of Clicked Merchant Categories	-0.1565**	(0.0682)
Number of Clicked Merchants Per Category	0.4666***	(0.0968)
Number of Unique Clicked Merchants Per Category	-0.0422	(0.0317)
CTR	0.0486***	(0.0122)
Unique CTR	0.0036	(0.0048)

Notes. This table reports the ATT of generative search on various consumer search behavior outcomes ($N = 90,000$). The reported effects correspond to the second-stage coefficients from a two-stage least squares (2SLS) specification that instruments actual exposure with treatment assignment. Robust standard errors are also reported. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A3 reports the ATT of generative search on various consumer search behavior outcomes, corresponding to Table 3 in the main manuscript. The reported effects are second-stage coefficients from a two-stage least squares (2SLS) specification that instruments actual exposure with treatment assignment. As expected, the ATT estimates exceed their ITT counterparts, and all coefficient signs and levels of statistical significance are consistent with those in Table 3.