

Influence of hotel change frequency on the satisfaction of urban multiday personalized tourism itinerary

Supplementary File

Table S1. Complete information on five-star hotels in Chongqing

ID	Name	Location
h_0	Aowei Hotel	106.507119,29.594805
h_1	Sheraton Hotel	106.586381,29.543289
h_2	Regent Hotel	106.570575,29.571163
h_3	Marriott Hotel	106.586413,29.537538
h_4	Radisson Collection Hotel	106.566101,29.539709
h_5	Tianlai Hotel	106.532387,29.630209
h_6	Ronghui Radisson Hotel	106.440842,29.542834
h_7	Saint Ho Hotel	106.374569,29.599635
h_8	Hilton Hotel	106.549446,29.55513
h_9	Jiangbei Hilton DoubleTree Hotel	106.531344,29.578865
h_{10}	Jiefangbei Westin Hotel	106.579937,29.556851
h_{11}	Metropark International Hotel	106.566472,29.67708
h_{12}	Niccolo Hotel	106.573218,29.575785
h_{13}	Fuli Le Meridien Hotel	106.570699,29.524017
h_{14}	Wellington Hotel	106.519865,29.610293

Table S2. Complete Chongqing attractions information

ID	Name	Location	Score	Sightseeing duration (Min)
a_{15}	Hongyadong	106.579297,29.56206	99	180
a_{16}	Erchang Cultural and Creative Park	106.539862,29.55103	98	90
a_{17}	Xiahaoli	106.592806,29.554972	97	120
a_{18}	Nanshan Scenic Area	106.604249,29.534642	96	240
a_{19}	Ciqikou Ancient Town	106.448944,29.580472	96	120
a_{20}	Colorful Riverside Park	106.468593,29.701349	96	60

(cont'd...)

Table S2. (*Continued*)

ID	Name	Location	Score	Sightseeing duration (Min)
a ₂₁	Jiuqu River Wetland Park	106.604652,29.61017	94	120
a ₂₂	Yufeng Mountain Ecological Park	106.708056,29.650424	92	180
a ₂₃	Zhaomushan Forest Park	106.49871,29.622927	90	150
a ₂₄	Jinhaiwan Park (Riverside Cultural Area)	106.467314,29.616572	89	90
a ₂₅	Hongen Temple Forest Park	106.508191,29.567681	88	120
a ₂₆	Nanshan Central Wetland Park	106.601886,29.52026	87	60
a ₂₇	Shancheng Trail	106.585829,29.579734	85	120
a ₂₈	Gele Mountain Forest Park	106.424235,29.571842	83	180
a ₂₉	Chongqing Zoo	106.505736,29.504051	82	120
a ₃₀	Chongqing China Three Gorges Museum	106.550474,29.561973	81	150
a ₃₁	Yangtze River Cableway (Xinhua Road)	106.539862,29.55103	81	60
a ₃₂	People's Liberation Monument	106.577052,29.557259	81	30
a ₃₃	Site of the Chongqing Bombing Tragedy	106.575482,29.553371	81	60
a ₃₄	WFC Huixian Building Observation Deck	106.611721,29.714786	81	60
a ₃₅	Happy Underwater World	106.515285,29.550471	80	90
a ₃₆	Baguo City	106.47065,29.497569	80	30
a ₃₇	Chongqing Caiyun Lake Wetland Park	106.551556,29.563009	80	90
a ₃₈	Huayan Tourism Scenic Area	106.454464,29.49094	80	120
a ₃₉	Zhazidong	106.433214,29.576093	80	60
a ₄₀	Yilu Huange Ecological Park	106.405117,29.588836	80	120
a ₄₁	Longju Mountain Cemetery	106.390324,29.499149	79	30
a ₄₂	Pingdingshan Cultural Park	106.474435,29.547117	79	90
a ₄₃	Gele Mountain Martyrs' Cemetery	106.44234,29.572187	79	30
a ₄₄	Shimen Park	106.488585,29.566926	79	60
a ₄₅	Tiandihu	106.511897,29.550889	79	30
a ₄₆	Rongqiao Park	106.540842,29.530179	78	60
a ₄₇	Chongqing Coral Park	106.554365,29.54949	78	30
a ₄₈	Riverside Park (Yangtze River Riverside Road)	106.572252,29.548094	78	60
a ₄₉	Fotuguan Park	106.526985,29.547615	78	90
a ₅₀	Yubei Longtousi Park	106.554565,29.588209	78	60
a ₅₁	Central Park	106.497224,29.563123	77	90
a ₅₂	Chongqing Garden Expo Park	106.550912,29.678873	76	240
a ₅₃	Qiansimen Bridge	106.577222,29.564722	75	30
a ₅₄	Red Rock Revolutionary Memorial Hall	106.499191,29.553953	73	90
a ₅₅	Cai Jia Central Forest Park	106.492125,29.736049	72	180

Table S3. Complete personal preference data of tourists

Tourist	Days	Total travel duration	Preferred attractions
1	3	9:00–22:00	$a_{15}, a_{16}, a_{25}, a_{38}, a_{43}, a_{37}, a_{35}$
2	3	12:00–01:00	$a_{15}, a_{16}, a_{25}, a_{38}, a_{43}, a_{37}, a_{35}, a_{39}$
3	3	8:00–23:00	$a_{26}, a_{28}, a_{19}, a_{34}, a_{36}, a_{15}, a_{22}, a_{37}, a_{35}$
4	3	10:00–21:00	$a_{26}, a_{28}, a_{19}, a_{34}, a_{36}, a_{32}, a_{22}, a_{46}$
5	3	8:00–23:00	$a_{19}, a_{18}, a_{39}, a_{42}, a_{16}, a_{31}, a_{30}, a_{23}, a_{22}$
6	3	9:00–21:00	$a_{15}, a_{17}, a_{19}, a_{28}, a_{33}, a_{37}, a_{50}$
7	3	13:00–01:00	$a_{17}, a_{18}, a_{20}, a_{28}, a_{33}, a_{39}, a_{45}, a_{51}$
8	3	10:00–23:00	$a_{15}, a_{18}, a_{24}, a_{26}, a_{38}, a_{40}, a_{43}, a_{37}, a_{35}, a_{39}$
9	3	10:00–21:00	$a_{18}, a_{19}, a_{23}, a_{25}, a_{27}, a_{36}, a_{40}, a_{33}, a_{34}$
10	3	8:00–21:00	$a_{16}, a_{18}, a_{19}, a_{24}, a_{26}, a_{35}, a_{36}, a_{37}, a_{45}, a_{46}$
11	4	13:00–02:00	$a_{43}, a_{15}, a_{19}, a_{16}, a_{20}, a_{35}, a_{34}, a_{33}, a_{23}, a_{18}$
12	4	7:00–23:00	$a_{22}, a_{26}, a_{34}, a_{51}, a_{53}, a_{31}, a_{17}, a_{19}, a_{18}, a_{33}$
13	4	11:00–23:00	$a_{15}, a_{48}, a_{37}, a_{22}, a_{34}, a_{52}, a_{38}, a_{16}, a_{25}, a_{45}$
14	4	7:00–21:00	$a_{15}, a_{18}, a_{20}, a_{22}, a_{24}, a_{29}, a_{30}, a_{36}, a_{43}, a_{45}$
15	4	10:00–23:00	$a_{16}, a_{18}, a_{17}, a_{22}, a_{24}, a_{26}, a_{28}, a_{32}, a_{36}, a_{38}, a_{41}, a_{43}$
16	4	15:00–23:00	$a_{15}, a_{16}, a_{20}, a_{23}, a_{26}, a_{30}, a_{31}, a_{35}, a_{46}, a_{52}$
17	4	10:00–24:00	$a_{15}, a_{16}, a_{17}, a_{21}, a_{23}, a_{24}, a_{25}, a_{30}, a_{31}, a_{35}, a_{48}, a_{53}$
18	4	9:00–23:00	$a_{19}, a_{23}, a_{27}, a_{29}, a_{36}, a_{38}, a_{39}, a_{40}, a_{48}, a_{51}$
19	4	7:00–20:00	$a_{17}, a_{19}, a_{27}, a_{32}, a_{34}, a_{36}, a_{39}, a_{42}, a_{44}, a_{50}, a_{51}$
20	4	8:00–20:00	$a_{15}, a_{16}, a_{17}, a_{22}, a_{23}, a_{25}, a_{28}, a_{32}, a_{34}, a_{38}, a_{49}$
21	5	10:00–23:00	$a_{18}, a_{29}, a_{31}, a_{33}, a_{26}, a_{35}, a_{50}, a_{36}, a_{37}, a_{46}, a_{19}, a_{15}$
22	5	8:00–00:00	$a_{15}, a_{18}, a_{47}, a_{43}, a_{32}, a_{20}, a_{40}, a_{36}, a_{35}, a_{23}, a_{17}, a_{16}$
23	5	13:00–23:00	$a_{16}, a_{24}, a_{32}, a_{28}, a_{36}, a_{19}, a_{20}, a_{41}, a_{33}, a_{38}, a_{27}, a_{26}$
24	5	15:00–01:00	$a_{25}, a_{54}, a_{27}, a_{43}, a_{17}, a_{18}, a_{24}, a_{16}, a_{26}, a_{39}, a_{36}, a_{20}$
25	5	8:00–20:00	$a_{18}, a_{20}, a_{22}, a_{23}, a_{26}, a_{28}, a_{30}, a_{32}, a_{36}, a_{39}, a_{42}, a_{43}, a_{45}, a_{48}$
26	5	9:00–23:00	$a_{15}, a_{16}, a_{17}, a_{25}, a_{28}, a_{34}, a_{35}, a_{36}, a_{38}, a_{40}, a_{41}, a_{45}, a_{48}, a_{50}$
27	5	10:00–23:00	$a_{15}, a_{20}, a_{25}, a_{28}, a_{30}, a_{31}, a_{35}, a_{36}, a_{38}, a_{39}, a_{43}, a_{46}, a_{49}, a_{50}, a_{54},$
28	5	8:00–21:00	$a_{18}, a_{19}, a_{20}, a_{21}, a_{23}, a_{25}, a_{28}, a_{32}, a_{33}, a_{36}, a_{38}, a_{40}, a_{41}, a_{43}, a_{48}, a_{50}, a_{55}$
29	5	9:00–20:00	$a_{16}, a_{19}, a_{20}, a_{22}, a_{27}, a_{29}, a_{30}, a_{33}, a_{36}, a_{38}, a_{40}, a_{44}, a_{45}, a_{47}, a_{48}, a_{50}, a_{51}$
30	5	7:00–20:00	$a_{15}, a_{16}, a_{17}, a_{18}, a_{19}, a_{20}, a_{23}, a_{24}, a_{26}, a_{30}, a_{32}, a_{33}, a_{37}, a_{45}, a_{48}, a_{51}, a_{53}$

Table S4. Complete experimental results considering tourist preferences

Tourist	Days	Low-frequency hotel changes			High-frequency hotel changes		
		C_{Best}	Gap (%)	T	C_{Best}	C_{Best}	Gap (%)
1	3	761.60	0	1.04	760.51	0	0.75
2	3	822.73	0	1.61	822.00	0	1.38
3	3	1,009.78	0	1.20	1,008.1	0	0.38
4	3	866.69	0	1.35	861.41	0	0.36
5	3	1,388.49	0	2.08	1,385.37	0	0.32
6	3	846.04	0	1.28	840.80	0	0.40
7	3	898.64	0	1.89	894.69	0	3.48
8	3	1,138.77	0	4.80	1,129.68	0	0.48
9	3	1,102.89	0	1.46	1,088.87	0	0.39
10	3	950.96	0	1.71	945.857	0	0.55
11	4	1,271.41	0	2.16	1,268.7	0	3.47
12	4	1,219.06	0	1.94	1,217.58	0	1.63
13	4	1,160.8	0	5.61	1,157.28	0	0.86
14	4	1,202.78	0	2.3	1,192.3	0	0.26
15	4	1,291.41	0	11.57	1,283.3	0	12.7
16	4	1,203.46	0	7.96	1,188.01	0	0.67
17	4	1,304.65	0	4.78	1,297.92	0	1.16
18	4	1,058.42	0	6.68	1,040.74	0	5.63
19	4	916.81	0	23.36	901.14	0	5.64
20	4	1,414.37	0	13.23	1,398.4	0	1.74
21	5	1,164.76	0	6.92	1,159.37	0	3.53
22	5	1,446.08	0	8.19	1,440.03	0	6.333
23	5	1,684.9	0	952.32	1,671.9	0	31.95
24	5	1,583.92	0	564.05	1,575.32	0	28.56
25	5	1,455.27	0	288.14	1,439.95	0	3.23
26	5	1,381.86	0	83.42	1,363.26	0	4.36
27	5	1,456.53	0	122.45	1,446.16	0	4.45
28	5	1,759.77	0	3600	1,741.59	0	47.48
29	5	1,607.26	0	30.85	1,596.06	0	10.15
30	5	1,715.65	0	542.54	1,706.05	0	17.07



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