MIS7420

Seminar in Management Information Systems: Paper Replication with R

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1   Data Cleaning Process

1.1   BOBO1

This is a reference test. Hlavac (2015) is used to generate many summary tables in this report.

2   Paper Replication

In this section, we provide our replication for this paper.

2.1   Table 1

Table 1 shows the summary statistics of top five vendors by sales volume.

Table 1: Summary Statistics of Top Five Vendors by Sales Volume

DomainName	TotalTransaction	TotalSales	TotalPagesViewed	PagesPerDollar	TotalDuration	MinsPerDollar
dell.com	$1,620$	$483,703.300$	$66,953$	0.138	$57,225.660$	0.118
amazon.com	$10,904$	$354,573.300$	$464,383$	1.310	$369,227.900$	1.041
staples.com	$5,927$	$236,982.300$	$247,163$	1.043	$166,189.900$	0.701
walmart.com	$1,977$	$156,606.100$	$80,397$	0.513	$68,434.890$	0.437
bestbuy.com	$1,230$	$149,950.400$	$50,627$	0.338	$36,735.900$	0.245

2.2   Table 2

Table 2: Summary Statistics of Referring Domain Categories

Domain Name	Total Transaction	Referred by SearchEngine	Direct to Website	Referred by Others
amazon.com	$10,904$	$2,955(27.1\%)$	$7,018(64.4\%)$	$931(8.6\%)$
bestbuy.com	$1,230$	$258(21.0\%)$	$901(73.3\%)$	$71(5.8\%)$
All Others	$36,794$	$6,999(19.0\%)$	$25,483(69.3\%)$	$4,312(11.7\%)$
All Transactions	$48,928$	$10,212(20.9\%)$	$33,402(68.3\%)$	$5,314(10.9\%)$

Table 3: Average Difference-in-Difference (DID) of the Outcome Variables

Outcome Variable	Groups	After Store Closure	Before Store Closure	First Difference (se)	DID
Amazon Sales	Control	3.418	3.303	0.115 (0.031)	-0.167
	Treatment	3.351	3.403	-0.052 (0.212)	
Amazon PagesPerDollar	Control	1.188	1.147	0.041 (0.025)	0.257
	Treatment	1.363	1.065	0.298 (0.153)	
Amazon MinsPerDollar	Control	1.016	0.975	0.041 (0.025)	0.263
	Treatment	1.187	0.882	0.304 (0.137)	
bestbuy.com Sales	Control	3.418	3.303	0.354 (0.031)	0.623
	Treatment	3.351	3.403	0.976 (0.212)	
bestbuy.com PagesPerDollar	Control	1.188	1.147	-0.109 (0.025)	0.074
	Treatment	1.363	1.065	-0.035 (0.153)	
bestbuy.com MinsPerDollar	Control	1.016	0.975	-0.084 (0.025)	-0.012
	Treatment	1.187	0.882	-0.096 (0.137)	

Table 4: Results of the Search Effect (Pages Per Dollar, All Product Categories)

	Dependent variable:			
	log(PagesPerDollar)			
	(1)	(2)	(3)	(4)
β_1	0.004	0.158	0.573	1.180
	(0.649)	(0.256)	(1.514)	(1.151)
β_2	−0.481	−0.140		−0.065
	(0.860)	(0.313)		(1.569)
Observations	4,941	5,565	677	775
R^2	0.0003	0.0002	0.002	0.018
Adjusted R^2	-1.321	-1.237	-7.230	-6.921
F Statistic	0.348 (df = 2; 2128)	0.192 (df = 2; 2487)	0.143 (df = 1; 82)	0.859 (df = 2; 96)

Note: *p<0.1; **p<0.05; ***p<0.01

Table 5: Results of the Search Effect (Minutes Per Dollar, All Product Categories)

	Dependent variable:			
	log(MinsPerDollar)			
	(1)	(2)	(3)	(4)
β_1	0.248	0.049	0.165	1.821
	(0.700)	(0.275)	(1.570)	(1.211)
β_2	−0.744	−0.089		−0.459
	(0.928)	(0.336)		(1.650)
Observations	4,941	5,565	677	775
R^2	0.0004	0.00003	0.0001	0.031
Adjusted R^2	-1.321	-1.237	-7.243	-6.811
F Statistic	0.389 (df = 2; 2128)	0.035 (df = 2; 2487)	0.011 (df = 1; 82)	1.548 (df = 2; 96)

Note: *p<0.1; **p<0.05; ***p<0.01

3   Advanced Method

4   References

[1] Marek Hlavac. Stargazer: Well-formatted regression and summary statistics tables. *R package version*, 5(1), 2015.