

Sniping in eBay Auctions



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eBay Auction



- English auction format with
 - A deadline
 - “Buy It Now”
 - Defined bid increments
 - Bid proxies (Max WTP)
 - Tie breaking rule
 - Hidden information
- Behaves like 2nd Price Sealed Bid Auction
 - Roth & Ockenfels (2000)

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Popular Press

- ‘eBay and its like are a free-for-all for con artists, sleaze balls, shady operators, and outright thieves...when snipers enter the picture, bidding strategies go out the window...’

Forbes ASAP, Michael Malone, 11.27.00.

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Research Goal

- To gain a better understanding of *sniping* behavior in eBay auctions.

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What is Sniping?

- **“Bidding at the last minute...”**
- No formal definition
 - What is the “last minute” – literally?
- eBay suggests that sniping does not offer an advantage
 - Load proxy with maximum willingness to pay and walk away

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Sniping

- Is sniping a “best response” to:
 - sentry bidding
 - shill bidding
 - bid stalking
 - bid nibbling or probe bidding
- Are bidders merely
 - Updating their priors?
 - Efficiently searching for bargains?

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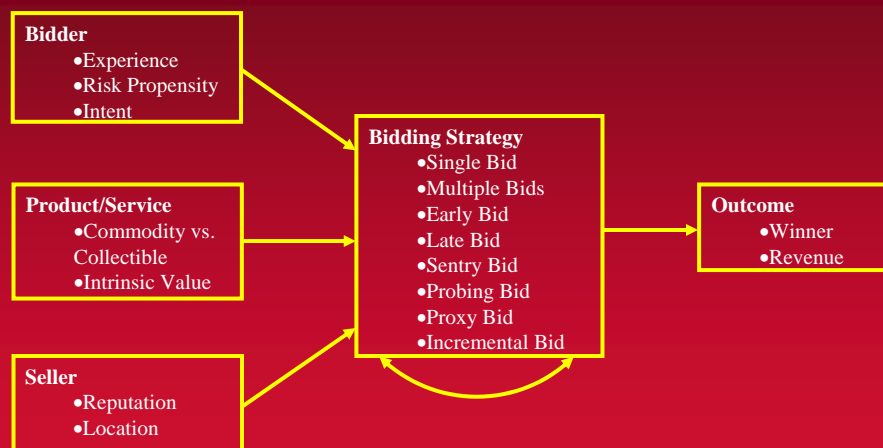
Sniping

- Or, other reasons?
 - procrastination
 - unwillingness to delay gratification
 - flexibility (to bid on similar auctions)
 - endowment effects

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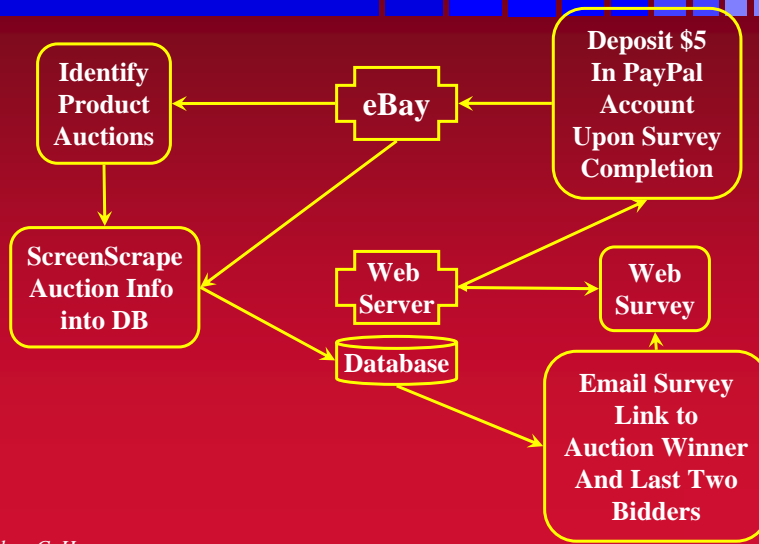
Research Framework



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Methodology



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Proxy Bidding

- 30,000+ auctions captured to date
- 6,000 from various foreign eBay websites

Bid Strategy	Number of Bids	Percent of Total Bids
Proxy Bidding	58,453	75.01%
Incremental Bidding	19,473	24.99%
Total Bids	77,926	100.00%

Analysis of 11,000 auctions

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Other Bids

Bid Timing	Number of Bids	Percent of Total Bids
Single Bid		
Early	6,089	7.88%
In-Between	19,379	25.07%
Late	4,633	5.99%
Multi Bid		
Probe	29,486	38.15%
Sentry	17,709	22.91%
Total Bids	77,926	100.00%

Analysis of 11,000 auctions

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Data for this Study

- For this analysis, we randomly selected 132 auctions in the USA from two **new** consumer electronics products:
 - Kodak DX 3700 digital camera (30 auctions)
 - M505 Personal Digital Assistant (102 auctions)

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Data

- Example: Kodak DX 3700 digital camera
- Main Page
 - unique identifier, description, category, first bid, location, country, start date/time, end date/time, seller and seller rating
- Bid History
 - bidder id, bidder rating, bid amount, bid date/time

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Data

- New In Box (NIB)
 - not refurbished
 - More than 1 bid (not “buy it now”)
 - Identical in features to benchmark
 - Benchmark: www.pricescan.com
 - Widely recognized price comparison website.
- 26.5% of sampled auctions were sniped
and the sniper won 75% of the time...

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Results

Statistics	Number of Bids			Unique Bidders		
	Camera	PDA	Total	Camera	PDA	Total
Mean	19.57	22.21	21.61	9.07	11.22	10.73
Median	20.50	22.50	22.00	9.50	11.00	11.00
Std. Dev.	9.68	9.24	9.37	3.26	4.39	4.25
Minimum	3.00	3.00	3.00	3.00	2.00	2.00
Maximum	37.00	44.00	44.00	16.00	23.00	23.00

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Results

Statistics	Winning Bid			Bid Ratio		
	Camera	PDA	Total	Camera	PDA	Total
Mean	\$203.14	\$218.86	\$215.29	100.65	101.80	101.54
Median	200.53	214.25	212.50	99.88	99.77	99.77
Std. Dev.	23.54	18.36	20.65	12.63	8.92	9.84
Minimum	161.50	178.50	161.50	76.53	83.81	76.53
Maximum	255.00	265.00	265.00	128.02	124.42	128.02

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Model

R²: .662

Variable	Coefficient	Standard Error	Wald	d.f.	p-value	Odds Ratio
Constant	15.23	4.81	10.04	1	0.002	
Win Bid	0.59	0.15	16.33	1	0.000	1.80
Bid Ratio	-1.43	0.33	18.46	1	0.000	0.24

Actual	Predicted		
	Not Sniped	Sniped	% Correct
Not Sniped	95	2	97.9%
Sniped	9	26	74.3%
Overall % Correct			91.7%

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Conclusions

- Sniping occurs frequently
- Sniping can be partially explained by market search for “value”
- But many questions remain

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To snipe, or not to snipe ...

- How do we completely explain sniping?
- Why do some bidders snipe themselves?
- Why do some bidders snipe (and lose), yet bid differently in a subsequent auction for the same item?

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Examples

- Sniping Yourself
- Bid Nibbling
- Almost Snipe

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Sniping by Country

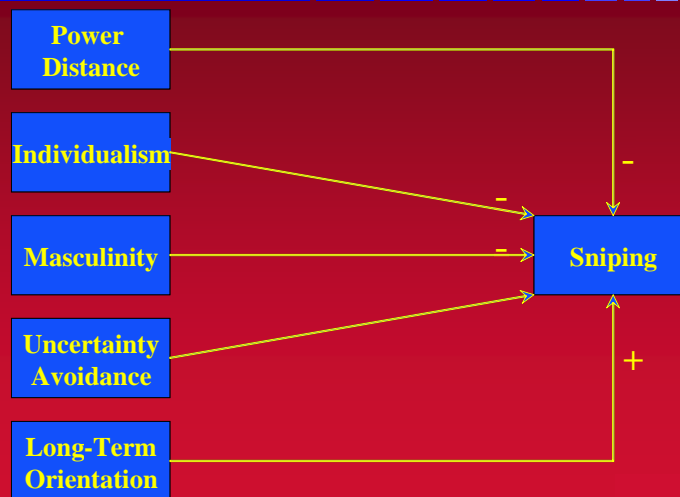
	AU	G	Ire	NZ	SP	SW	UK	USA	
NS									
Frequency	153	138	149	141	156	127	176	157	1197
Row %	12.8	11.5	12.4	11.8	13.0	10.6	14.7	13.1	100.0
Col %	76.5	69.0	74.5	70.5	78.0	63.5	88.0	78.5	74.8
Sniped									
Frequency	47	62	51	59	44	73	24	43	403
Row %	11.7	15.4	12.7	14.6	10.9	18.1	6.0	10.7	100.0
Col %	23.5	31.0	25.5	29.5	22.0	36.5	12.0	21.5	25.2

Pearson Chi-Square – Value: 40.44; df: 7; Significance: 0.000

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Hofstede and Sniping



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