

Don't distract me while I am winning this auction!

The psychology of auction fraud

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Auctions... but first...



Why Auctions?

- There is a lot of money in Internet Auctions (eBay shareholder reports show millions of pounds turnover monthly).
- No one will tell you exactly how much money is lost to fraud, but the sheer number of advisories indicate that the amounts are non-trivial.
- But. Why would it make sense to look at Auction Fraud from a psychological perspective?



Etsy

ebay

Why involve Psychology?

- (a) because a number of psychological mechanisms play a part in every purchase. For example: *Attitudes towards possessions* (Belk, 1988); *demand characteristics of money* (Lea & Webley, 2006); *risk preferences* (Zaleskiewicz, 2001)...
- (b) Because there a number of salient traits that influence auction behaviour specifically. For example: *Optimism bias* (Lovallo & Kahneman, 2003); *Hedonic shopping* (Overby & Lee, 2006); *the thrill of the bid* (i.e. *sensation seeking*; Cheema, Chakravarti & Sinha, 2012)
- (c) Because the potential victims play an active role in the decision making processes involved, thus making their psychological structure salient.

Initial postulates

- Three cascading stages of scam compliance (Plausibility, Respond, Lose utility).
- Fraud = illegal marketing offer.
- Compliance across different categories of Internet fraud is influenced by different mechanisms of persuasion.
- Victim facilitation (i.e. active role of victim in the process).



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The questions

- (a) what are the salient psychological mechanisms of persuasion influencing compliance with fraudulent auctioneers?
- (b) what are the particulars of fraudulent auctions? Are there any items that are particularly suited to auction fraud? How much money is lost? etc.
- (c) Are there any differences in psychological traits across the individuals who *respond only* and those who *lose* money?

What induces trust in auctions?

- **Feedback score** (Diekmann & Wyder, 2002; Hergert, 2009).
 - Impact on the price (Bapna, Jank, & Shmueli, 2008; Hergert, 2009; Lee, Im, & Lee, 2000).
- **Geographical proximity** (near or the same Country; Hergert, 2009).
 - Border effect (Maier, 2010)
- **Price** in any transaction (Kahneman, 2003).
 - As a function of personal utility (Neumann & Morgenstern, 1944).
 - Slightly lower than average decreases perceived risk (Alhakami & Slovic, 1994; Finucane et al., 2000)
- **eBay specific.** Conducting the sale outside of eBay, for example.

Initial experiment

Think about an item you've been thinking of buying lately, but you are slightly worried about its cost. Describe it in 50 characters or less in the field provided (What is it, manufacturer, if you have one in mind, model if applicable, special features if you are looking for any...). You can find a few random examples below.

Lenovo Thinkpad T430u (i5, 4Gb, SSD)

Please note that your answer is limited to maximum 45 characters.

A few examples:

- Kitchen from IKEA, in solid wood, with an island!
- Candy Washing machine (WM136-80)
- XFX GeForce GTX260 graphics card
- Canon EOS 7D DSLR
- Hello Kitty Water Bottle
- Apple iPhone 4S 16Gb White
- Lenovo Thinkpad X220 (i5, 4Gb, SSD) laptop
- ...

How much would you reasonably expect to have to pay for this item (just enter numbers here, we'll ask about currency later) ?

1500

Only numbers may be entered in this field

Please note that the maximum value is set to 99999.99

In what currency is the price above?

GBP

Simply use the symbol for the currency (e.g. \$, €, £, ¥ or GBP, USD, EUR, AUD...)

- **A questionnaire.**
Final n = 180
- A bunch of questions that are irrelevant, but these three on the right, we need.

UK SELLER
BARGAIN!
Brilliant
condition

Lenovo Thinkpad T430u (i5, 4Gb, SSD), BNIB, UNWANTED GIFT

Item condition: New

Quantity: 1 More than 10 available / 5 sold

Time left: 18m 26s

Price: £1,125.05

Buy it now

Add to Watch list

Postage: Free - Standard Delivery See more services

See all details

Item location: LONDON, LONDON

Post to: Worldwide

Delivery: Estimated within 2-3 working days

Payments: PayPal See payment information

Returns: Returns accepted Read details


You're in safe hands when
you shop on eBay

eBay Buyer
Protection
Find out more

Add to watch list

Seller information

best!sell (15984)

99.4% Positive feedback

Recent Feedback ratings (last 12 months)

	1 month	6 months	12 months
Positive	5120	16253	16412
Neutral	34	98	98
Negative	64	137	137

Detailed Seller Ratings (last 12 months)

Criteria	Average rating	Number of ratings
Item as described	★★★★★	14351
Communication	★★★★★	14306
Dispatch time	★★★★★	14348
Postage and packaging charges	★★★★★	16324

Description

Postage and payments

Please find high-res pictures here: <http://sc.res.com/high-res/images>

A brilliant example of its kind, in pristine condition. Comes in original packaging, never used. I am only selling it as it is an unwanted gift, otherwise I would gladly keep it. this particular item costs a lot more usually, as you know, but I want to make someone as happy as I would have been, if I would have a use for it. I am very reliable and always ship from a UK warehouse.

I am more than happy to conclude the transaction outside of eBay (to avoid eBay fees). Contact me privately on: sell@yahoo.cn

GRAB YOURSELF A BARGAIN!!

Random
sequence.

Six auction
screenshots.

This one
interests us

Questions at the end (in all auction screenshots)

Description

Postage and payments

Please find high-res pictures here: <http://sc.res.com/high-res/images>

A brilliant example of its kind, in pristine condition. Comes in original packaging, never used. I am only selling it as it is an unwanted gift, otherwise I would gladly keep it. this particular item costs a lot more usually, as you know, but I want to make someone as happy as I would have been, if I would have a use for it. I am very reliable and always ship from a UK warehouse.

I am more than happy to conclude the transaction outside of eBay (to avoid eBay fees). Contact me privately on: best!sell@yahoo.cn

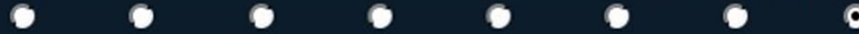
GRAB YOURSELF A BARGAIN!!

Please assume that the (pictures)link above would lead you to photographs of exactly the item in the description, in perfect condition. Now, please, answer the following few questions:

Not
appealing

Very
appealing No answer

How appealing do you find this offer?



Please answer on a range of 1 to 7, where 1 is not appealing and 7 very appealing.

If you had the funds, how likely would you be to accept the
above offer right now?



1: Extremely unlikely | 2: unlikely | 3: neither likely, nor unlikely | 4: likely | 5: Extremely likely

Risk factors we were looking at

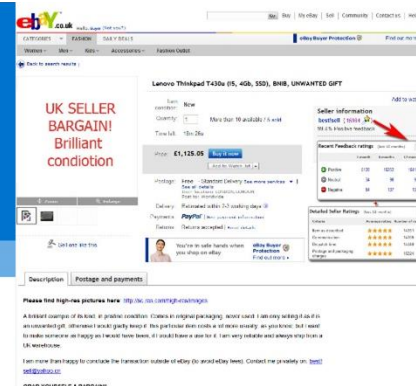


Table 5.

Factor Loadings and Communalities Based on a Principle Component Analysis with Oblimin Rotation for 13 items from RISKSCALE (N = 180)

	Location	Feedback	eBay	Value
Seller feedback is lower than 100%		.903		
Seller has a lot of negative individual feedback		.858		
Seller's location is unclear (London, London)	.528			
Delivery time is very long, for an item located in UK	.917			
Shipping from UK Warehouse, with a listed Chinese (.cn) email	.697			
Possibility of hidden costs (unexpected customs charges or other taxes)	.804			
An unwanted gift, but 2 already sold with more than 10 available			-.465	.447
Text in the main picture is misspelled			-.445	
An offer to conclude business outside of eBay			-.848	
Despite claiming to be a private seller, this person conducted more than 16,000 transactions on eBay			-.865	
The BuyItNow price is much lower than expected				.734
Only 18 minutes before end of auction				.787
There is no photograph of the item				.534

Note. Factor loadings < .4 are suppressed

Risk factors empirically salient

There were only two factors that statistically significantly impacted appeal of a fraudulent auction:

- **Feedback score (negative)**
- **Spelling (negative)**

In layman's terms, people will buy items on eBay if the seller feedback is 100% and if the seller runs a spell checker beforehand.

We used these findings in our next experiments.

Two Experiments

Study 1 (n = 6609)

DV: scam compliance with Auction fraud (four levels: 1 - not compliant, 2 - found Plausible, 3 - Responded, 4 - Lost).

IV(s): Susceptibility to Persuasion - II Scale (Modic & Anderson, 2014); and Demographics.

Multinomial Regression.

StP-II: 54 Items, 10 sub-domains and further 6 sub-sub-domains.

StP-II sub-domains: Ability to Premeditate, (Need for) Consistency, Self - Control, Need for Similarity, Att. towards Advertising, (Need for) Cognition, (Need for) Uniqueness, Sensation seeking (Novelty, Intensity), Social Influence (Normative, Informative), Attitudes tow. Risk (Ethical domain, Financial domain).

Two Experiments 2

Study 2 (n=81)

Follow up study, contacted cca. 280 self-reported victims of Auction Fraud.

DV: Responded or Lost (two levels: 1 - Responded only, 2 - Responded and Lost).

IV(s): HEXACO-Brief (60 Items), UPPS-IBS (modified-20 items).

Logistic regressions.

Results S1 – Compliance rates

Auction Fraud - Compliance rates

Not AF Compliant 58.9% (n = 3794)

AF Plausible 34.9% (n = 2245)

AF Responded 1.2% (n = 80)

AF Lost utility 4.9% (n = 321)

Overall Compliance rates

N/Compliant (exc. P) 52.9% (n = 3467)

Plausible **94.8%** (n = 6268)

Responded 25.5% (n = 1683)

Lost utility 22.1% (n = 1459)

But what about effectiveness?

Effectiveness?

- We don't know how effective Auction Fraud is, from these results.
- We measure effectiveness by calculating a ratio of how many individuals who encountered the type of fraud actually lost utility to it.
- Recent experiment: (n = 1012). Auction fraud was **more effective** than any other measured fraud category.

Cambridge University Staff Threat Effectiveness Ratings (n = 1012).

		Not seen	Encountered	Responded	Lost	Effectiveness
Accommodation	n	717	49	10	6	12.24%
	%	70.8	4.8	1	0.6	
Auction fraud	n	689	49	18	27	55.10%
	%	68.1	4.8	1.8	2.7	
Stock fraud	n	700	82			0.00%

Results S1

Regressors of Fake Auction Scam Compliance in the Nominal Logistic Regression (n = 6609)

		B	Exp(B)	Std. Error	Wald
Plausible	Consistency	-.073	.930	.025	8.837**
	Cognition	-.062	.939	.030	4.318**
	Uniqueness	.152	1.164	.025	37.472***
	Sensa. Seek. (Intens)	.102	1.107	.020	25.505***
	Soc. Inf. (Normative)	.106	1.111	.028	14.232***
	Soc. Inf. (Informative)	.058	1.060	.019	9.086**
	Risk (Financial)	.072	1.075	.028	6.392**
	Risk (Ethical)	.089	1.093	.034	6.890**
Responded	Uniqueness	.224	1.251	.103	4.728**
	Sensa. Seek. (Intens)	.165	1.179	.084	3.820*
	Risk (Ethical)	.360	1.433	.123	8.578**
Lost	Attitude towards Adver.	-.124	.884	.050	6.188**
	Uniqueness	.217	1.243	.053	16.765***
	Soc. Inf. (Normative)	.101	1.106	.060	2.816*

Note. Reference category is: non-compliant.

* $p < .1$, ** $p < .05$, *** $p < .001$

Results S2 – the follow up

Most Respondents (98% of the sample) were willing to tell us what they bought in a fake auction.

The items ranged wildly in price and category. From nappies to apartments. None repeated themselves.



Results S2

Red Flags (Respondents paid attention to when deciding to bid):

- Description of the Item (61%)
- The price of the Item (58%)
- Depictions of the Item (58%)
- The condition of the Item (57%)
- Feedback score of the seller (53%) .
- Other considerations all below 40%.

Approximately 50% of the respondents think that feedback is important in general.

Results S2



The amount invested into purchase was skewed:

- in 60% of the cases respondents used $< 1\%$ of their monthly income to buy the auctioned item.
- Only 4% of respondents invested several times their monthly income.

Funds recovery:

- Only 26% of the respondents attempted to recover their funds.
- **Out of these 26%, approximately 50% got nothing back.** The others got back everything (about 2/3's) or everything w/o P&P (about 1 remaining third).

Results S2

Logistic Regression Model for Personality Traits Influencing the Transition From Responding to Buying (n = 78)

	B	S.E.	Exp(B)	Wald
<i>HEXACO</i>				
Modesty (HON)	1.812	0.588	6.12	9.500**
Social Self Esteem (EXTR)	1.028	0.585	2.795	3.083*
Sociability (EXTR)	-1.193	0.507	0.303	5.540**
Gentleness (AGRE)	1.717	0.634	5.57	7.327**
Flexibility (AGRE)	-2.034	0.801	0.131	6.440**
Organization (CONSCI)	1.592	0.579	4.916	7.553**
Diligence (CONSCI)	-1.497	0.599	0.224	6.240**
Aesthetic Apprecia. (OPE)	-1.064	0.494	0.345	4.640**
Creativity (OPE)	1.762	0.605	5.826	8.482**
<i>UPPS-IBS</i>				
Premeditation	-2.197	0.797	0.111	7.601**
Sensation Seeking	0.737	0.434	2.089	2.881*

Note. * $p < .1$, ** $p < .05$, *** $p < .001$

NONE of the HEXACO domains was statistically significant as a full construct.

Pseudo R2 (Nagelkerke) = .586 Model Chi-Square = 42.314, $p < .001$

Discussion S1 - Plausibility

The decision to find an auction plausible is influenced by many different persuasive mechanisms (*Need for Consistency, Need for Uniqueness, Sensation Seeking, Social Influence, Attitudes Towards Risk, and others*).

This is not surprising. Individuals work hard to believe scammers and because of mechanisms mentioned before, we'll find a way to make a claim plausible.

Individuals who feel no need for consistency, and are not very good at trying to find explanations for events, are more likely to believe scammers. A believer will also be more susceptible to in-group pressures and will be looking to experience new things.

Plausible	Consistency	-.073	.930	.025	8.837**
	Cognition	-.062	.939	.030	4.318**
	Uniqueness	.152	1.164	.025	37.472***
	Sensa. Seek. (Intens)	.102	1.107	.020	25.505***
	Soc. Inf. (Normative)	.106	1.111	.028	14.232***
	Soc. Inf. (Informative)	.058	1.060	.019	9.086**
	Risk (Financial)	.072	1.075	.028	6.392**
	Risk (Ethical)	.089	1.093	.034	6.890**

Discussion S1 – Responding

Responding (or bidding) in a fraudulent auction is another matter. Three regressors are significant:

- *Need for Uniqueness* (the more special the item, the more likely to respond),
- *Sensation Seeking - Intensity* (the thrill of the bid and the stakes) and
- risk seeking attitude (Financial and Ethical).

Responded	Uniqueness	.224	1.251	.103	4.728**
	Sensa. Seek. (Intens)	.165	1.179	.084	3.820*
	Risk (Ethical)	.360	1.433	.123	8.578**

Discussion S1 – Losing

Going from responding to losing money in a fraudulent auction, there are three regressors again: *Attitude towards Advertising*, *Need for Uniqueness* and *Normative Social Influence*.

Individuals who are *sceptical* towards marketing are more likely to lose money (once they have responded).

They look for Unique deals and are more susceptible to social pressure.

Lost	Attitude towards Adver.	-.124	.884	.050	6.188**
	Uniqueness	.217	1.243	.053	16.765***
	Soc. Inf. (Normative)	.101	1.106	.060	2.816*

Discussion S1 – Conclusion

There are very few people who make contact with the seller or start bidding on an item, who do not go through with the transaction (*Need for Commitment? Sunk Cost Fallacy?*).

Those who are looking for Unique Deals, and enjoy the thrill of the chase, transact more and are more likely to be victimized.

Ah, but wouldn't then be victimization simply a function of being a frequent visitor to auction sites and thus being exposed? So, no psychology, just frequency?

Our data in Study 2 shows that 60% of victims were fairly new users (< 50 transactions), with 30% of that completely new (< 10 transactions). Only 9% of victims did more than 500 transactions on Auction sites. So, no.

Discussion S2 - general

Our previous research showed that feedback score and spelling were salient in the decision to purchase in a fraudulent auction.

The present research showed feedback score to be salient for 58% of respondents but spelling not that much (36%).

Temporal effects do not seem to have a strong effect (only 21% of respondents paid attention to how soon the listing will end).

Scarcity did not have a large effect (15% think the number of same items with seller are important; and 22% browsed eBay to see how many items are on offer).

It pays to open a claim. **50% chance of recovery of funds.**

Discussion S2

A number of personality traits are statistically significant in determining whether an individual will progress from responding to losing utility.

No full HEXACO domains are significant regressors. However, 5 out of 6 domains have significant sub-domain regressors.

Take-home message: A number of triggers are at our disposal to lower susceptibility to persuasion.

Discussion S2

- A number of sub-domains are inversely correlated (e.g. Extraversion: + Social Self Esteem vs. – Sociability; Agreeableness: + Gentleness vs. – Flexibility, etc). This needs to be explored in-depth.
- Premeditation was statistically significant. There are studies showing that this is indeed salient in general scam compliance too.
- Note that most people who respond also lose. Finding individual differences between ‘responders’ and ‘losers’ is important. Because it can save people from real struggles (both emotional and financial).
- Small sample size in S2 (n = 81). But these were all genuine (self-reported) victims. And being scammed is a low probability event.

Thank you for listening!

<https://david.deception.org.uk>

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