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AN EMPIRICAL INVESTIGATION OF THE AUCTION BUYER'S CHOICE TO BUY OUT OR BID: CRY OF REGRET OR LAUGH OF SATISFACTION?

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Abstract

Online auction buyers often face the predicament of choosing between the buyout strategy and the bidding strategy to acquire an auctioned product. A buyer who chooses to buy out will obtain the item immediately at the posted price while the one who chooses to bid will have to monitor the bidding process in the hope of acquiring the product at a price lower than the posted one. Despite the wealth of auction literature, relatively few studies empirically assess the buyout option. This study seeks to bridge the gap by investigating how the buyout option (permanent or temporary) and price parameters (starting price and buyout price) affect the formation of two emotions, namely anticipated satisfaction of choice and anticipated regret of outcome, which in turn affect the buying strategy (i.e., buy out or bid). We employ laboratory experiments in our study and our results indicate two interesting findings. First, when the permanent buyout option is available, a buyer is more likely to exhibit loss aversion characteristics and prefer to adopt the buyout strategy. Second, when the temporary buyout option is present, the thought that one could avoid premature ending of auction by exercising the bidding option at the start decreases one's preference for adopting the buyout strategy. Implications of these results for further research and practice are discussed.

Keywords: Online auction, price contrast, buyout option, bidder behavior

Introduction

Ever since the buyout option was devised in the late 1990s by two of the most prominent online auction websites, Yahoo!Auction and eBay,¹ online auction buyers have been troubled by the decision between the buyout strategy and the bidding strategy in acquiring a product (Budish and Takeyama 2001; Lou and Zhong 2003). When a buyer chooses to bid and inputs an offer price, the proxy bidding system places bids based on the minimum bid increment and up to the offer price delineated by the buyer. The buyer is notified when he has won the bid or has been outbid by other competitors. If the latter occurs, the buyer has the opportunity to input a higher offer price. Comparatively, a buyer who has chosen to buy out will bypass the hassle of bidding and obtain the item immediately at the posted price, which is often much higher than the starting price (Lucking-Reiley 2000).

There are two commercial implementations of the buyout option: temporary and permanent (Wang 2003). The *temporary* buyout option is one where the option ceases to be available once the first bid is received (Mathews and Katzman 2006). The *permanent* buyout option enables the buyer to choose to buy out at any point in time during the entire auction process (Budish and Takeyama 2001). The buyout option offers buyers several benefits, such as reducing the transaction costs, a more-secure prespecified final price, and the elimination of possible risks of losing the auction (Mathews 2003). Furthermore, the buyout price could act as an upper limit reference point that could either make it more or less attractive to bid for a product (Lou and Zhong 2003). In our

¹Yahoo!Auction terms the buyout option *Buy-Now* and eBay calls it *Buy-It-Now*.

view, the possibility of achieving the above benefits may be more likely with the permanent buyout option than with the temporary buyout option.

Despite the wealth of auction literature (for a review, see Lucking-Reiley 2000) and knowledge about facets of the buyout option, there are relatively few studies that investigate the impact of dissimilar buyout options on buyer behavior. To our knowledge, prior research on the buyout option focuses on the examination of its effect as a whole on the welfare of buyers and sellers (Mathews 2003), on the pricing strategy (Hidvégi et al. 2002; Kirkegaard and Overgaard 2003), and on buyers' risk perceptions (Mathews and Katzman 2006). These studies primarily build on theoretical modeling with little empirical evidence. Furthermore, in our view, the most disconcerting dilemma facing a buyer is the satisfaction of winning the item by paying the buyout price and the suspicion (i.e., regret) about whether he might have been able to pay less than the buyout price had the bidding process continued (Lucking-Reiley 2000). Such assessment could go beyond the basic rationality assumption in many of the prior modeling studies. Particularly, there is an increasing amount of consumer research indicating that the utility function is not simply the contrast between gains and losses, but rather, it includes complex anticipated emotions (Luce et al. 1999).

In this vein, we argue that a buyer would make a decision based on the principle of minimizing negative emotions (e.g., regret) and maximizing positive emotions (e.g., satisfaction) (Cooke et al. 2001; Shiv and Huber 2000) based on the evaluation of information obtained through two key auction parameters: price contrast (i.e., the difference between starting price and buyout price) and buyout permanence (temporary or permanent). We adopt an experimental approach in this study to explore how buyout permanence interacts with price parameters (i.e., starting price and buyout price) to affect the formation of anticipated satisfaction and anticipated regret, and what impact such emotions might have on the buyer's decision. Our investigation suggests two findings. First, when the permanent buyout option is available, a buyer is more likely to exhibit loss aversion attributes and prefer to adopt the buyout strategy. Second, when the temporary buyout option is present, a buyer is more likely to adopt bidding strategy to eliminate the possibility of someone ending the auction prematurely.

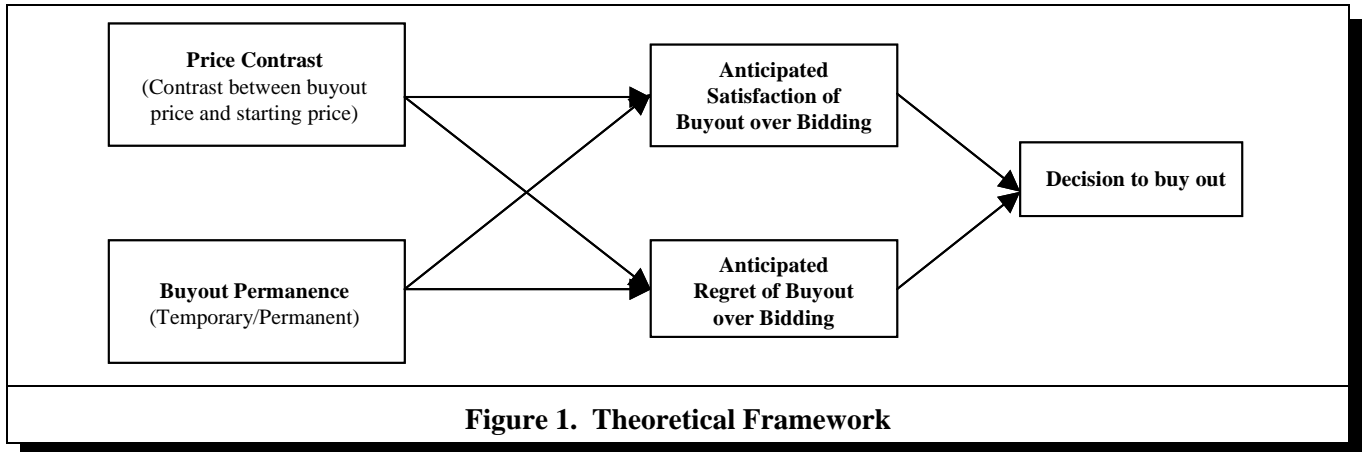
Theoretical Foundation and Research Framework

Conventional wisdom dictates that by providing more favorable information to the buyers (e.g., low starting price), a seller can attract more buyers to bid, which should in turn lead to higher closing prices. Evidently, several researchers have observed that the provision of more favorable information, such as lower starting price does attract more bidders (Lucking-Reiley 1999). Relating to the current context, one could contend that a buyer should evaluate the buyout option more favorably when the price difference between buyout price and starting price is small. However, recent research has begun to be aware of the complex role of information in influencing a buyer's perceptions and decisions (Wood and Kauffman 2004). For instance, by setting a high starting price, potential buyers may perceive that the utility of obtaining the item may be low and hence it is very likely that the item will not be auctioned off. However, by setting a low starting price, potential buyers may perceive a strong competition for the item may be expected. Even if a buyer acquires the item, a buyer might suffer the winner's curse just by winning a bid, and this action could trigger regret when he realizes that he would have been better off acquiring the product by some other means (e.g., from an online retailer such as Amazon.com) (Bazerman 2001). In this view, a decision to buy out may involve more complex mental computation and simulation than many would have expected.

According to the counterfactual thinking principle (Zeelenberg et al. 1998), by mentally computing what would and should happen, a buyer is able to come to a better understanding of the consequences of the options prior to making a decision. In other words, evaluation reactions (i.e., generation of anticipated emotions) to the factual outcome (i.e., decision to buyout) can be based on the comparison of this outcome with the post-computed counterfactual alternatives (Gilovich et al. 2002). With this notion, we propose that the adoption of an auction acquisition strategy (i.e., to bid or to buy out) is contingent on the intensity of anticipated regret and anticipated satisfaction experienced during the contrast between the buyout and price parameters (see Figure 1).

Anticipated Regret

Decisional regret is a consequence of decision-making under risk, and may arise when the buyer appears to have made the wrong decision even if the decision appeared to be the right one at the time it was made (Loomes and Sugden 1982, 1987). In other words, regret is a consequence of decision-making under risk and "a negative, cognitively based emotion that we experience when realizing or imagining that our present situation would have been better had we acted differently" (Zeelenberg 1999). When individuals evaluate outcomes, they compare what they have received with what they would have received had they made a different choice. If a different choice would have led to a better outcome, then they would feel regret about their decisions. Con-



versely, if a different choice would have led to a worse outcome, then they would rejoice and feel satisfied. Further, regret aroused through decisional choice should motivate a buyer to engage in a regret minimizing coping strategy.

Motivations to cope by reducing regret should encourage a decision maker to evaluate the magnitude of anticipated regrets resulting from different choices. In relation to buyout auctions, regret can be experienced by a buyer in three scenarios: (1) he chooses to bid and loses the item to a competitor; (2) he chooses to bid and wins the item at a price higher than that of the buyout option; and (3) he chooses buyout but realizes that he could have purchased the same product at a lower price by bidding. The first two possibilities correspond to the formation of regret resulting from choosing to bid and the last possibility indicates the experience of regret due to the decision for buyout. Summing up these possibilities, we posit that, depending on the causes and intensities of regret simulated by thoughts of the forgone option, one is more or less likely to decide to buy out (H1a).

Hypothesis 1a: *Anticipated regret from choosing buyout over bidding is negatively related to the decision to buy out.*

Anticipated Satisfaction

Compared to regret, which involves comparison between the performance of the chosen and foregone alternatives, satisfaction centers on comparison between expected and actual decision performance (Tsiros and Mittal 2000). The concept of satisfaction indicates that the feeling of satisfaction may be traced to the evaluation of certain experiences (e.g., Hunt 1977). An example of such an evaluation is online auction participation consequence comparison based on choice making between the online auction participation manners (e.g., bidding versus buyout). The proposition of satisfaction resulting from the evaluation process finds support in the expectation-disconfirmation paradigm. The paradigm proposes that satisfaction perception is processed through predefined steps during which buyers form expectations toward the outcomes, evaluate actual performance, and compare the performance with the expectations, resulting in either positive or negative disconfirmations (McKinney et al. 2002; Phillips and Baumgartner 2002; Szajna and Scamell 1993).

In the context of our study, we perceive anticipated satisfaction in three ways. First, anticipated satisfaction is the emotional state predicted to happen (i.e., outcome) in the future (but not in comparison with foregone alternatives as with regret) after the ongoing online auction has ended. Second, the level of anticipated satisfaction is determined with an evaluation of price options (e.g., buyout price, starting price, and minimum bid increment). Third, anticipated satisfaction would probably influence the final decision between buyout and bidding. Therefore, anticipated satisfaction influences preference shifts, and is a function of the congruence between expectation and evaluative parameters, such as previous outcomes and their emotional impact.

Bazerman (2001) observes that auction buyers tend to suffer the winner's curse, as they are willing to forego some consumption value to gain the "interesting and novel experience" of bidding and competing for items. Indeed, it is not uncommon that the intensity of bidding peaks toward the end of an auction and consequently results in a much higher closing price than the buyout price. Hence, we posit that depending on the causes and intensities of satisfaction simulated by thoughts of bidding and winning, one is more or less likely to decide to buy out (H1b).

Hypothesis 1b: *Anticipated satisfaction from choosing buyout over bidding is positively related to the decision to buy out.*

Price Contrast and Effect on Anticipated Emotions

According to the persuasion literature, a consumer's preference for one option over others is contingent on the evaluation of the information available. For instance, Tversky et al. (1988) highlight that preference shifts between choices arise due to attribute prominence (i.e., importance and attractiveness). Terming this phenomenon the *prominence effect*, Tversky et al. propose that as a consequence of the compatibility and contrast between options, alternatives with prominent attributes tend to be preferred more than those with less prominent attributes when a buyer approaches the choice task.

In the context of online auctions, a buyer has to address the dilemma of choosing between taking the buyout option to win the product immediately, and participating in the bidding process in the hope of acquiring the item at a lower price. Before the decision can be made, a buyer would evaluate the available auction information to assess which option would probably yield higher surplus. This information includes the price options in the current auction (e.g., buyout price, starting price, and minimum bid increment).

Price options in the current auction would directly influence consumers' estimation of the probability of them achieving optimal outcomes when choosing either buyout or bidding. For example, suppose the buyout price is set quite close to the starting price, which means the opportunity for bidding to get a much lower price than the buyout option becomes low. The buyer is more likely to choose buyout in order to save time and effort and avoid regret. Conversely, when the difference between buyout price and starting price is quite large, a buyer may perceive a great opportunity in winning the bid with a price much lower than the buyout price. Consequently, the anticipated satisfaction from winning the item is amplified and, hence, higher willingness to bid.

Anticipated satisfaction and anticipated regret are thus formed on the basis of perceived opportunity, which is essentially the price contrast among options in the auction. We hypothesize that contrast between buyout price and starting price will influence the formation of anticipated satisfaction and anticipated regret, which in turn affects decision to buy out. We further posit that the more significant the price contrast is, the more likely the buyer would choose to bid than to buy out (H2a and H2b).

Hypothesis 2a: *Price contrast is positively related to anticipated regret favoring buyout over bidding.*

Hypothesis 2b: *Price contrast is negatively related to anticipated satisfaction favoring buyout over bidding.*

Buyout Permanence and Effect on Anticipated Emotions

Buyout permanence is an influential factor of anticipated emotions. In the temporary buyout condition, where a buyer can only choose between buyout strategy and bidding strategy prior to the first bid received (Budish and Takeyama 2001), one may anticipate much more significant emotional reactions when he imagines the unfavorable outcome of making a wrong decision. To avoid such occurrence, a buyer may choose to buy out, as the successfulness of winning the item immediately by choosing buyout would probably outweigh the possible loss of higher price paid than bidding. Contrarily, the permanent buyout may elicit conflicting emotional responses. First, the permanent buyout option offers a second chance assessment of whether to bid or buy out, depending on the other buyers' behavior (Lou and Zhong 2003). The buyer can decide to exercise buyout at a later stage after observing others' bidding behavior, or even after he himself has placed bids. Since a buyer can always choose to buy out during the bidding process in a permanent buyout condition, the opportunity cost of not choosing the buyout strategy at the beginning is comparatively lower than the temporary buyout condition. For this reason, the buyer can be satisfied with his decision to start by bidding, since there is always a "way out" when one senses danger of losing the auction or of being outbid. Consequently, the anticipated satisfaction of buyout will be low.

Furthermore, according to Lou and Zhang (2003), there is little incentive to take the buyout option (in the presence of permanent buyout) until the bidding price increases to near the buyout price, as the buyer would hope that his competitor would quit early and he would be able to earn a higher surplus. In addition, the regret of paying a price higher than the buyout price does not occur in a permanent buyout auction. That is, the permanent buyout option and its resultant higher potential surplus would likely prompt a buyer to take the risk of losing the item to a competitor who takes the advantage of choosing the buyout option. As such, the buyer would prefer to bid; hence, the anticipated regret of buyout is high (H3a and H3b).

Hypothesis 3a: Buyout permanence is positively related to anticipated regret favoring buyout over bidding.

Hypothesis 3b: Buyout permanence is negatively related to anticipated satisfaction favoring buyout over bidding.

Research Methodology

Experimental Design

This study employs the two (price contrast: high and low) \times two (buyout permanence: temporary and permanent) factorial design in a series of within-subject experiments. The objective is to examine the impact of decision characteristics (price parameters, buyout permanence) on decision to buy out through generation of anticipated emotions.

We developed an auction program that followed the popular online auction mechanics of proxy bidding and provided for both temporary and permanent buyout auctions (e.g., eBay, Yahoo!Auction, and Amazon). We developed a questionnaire including five-item, seven-point Likert-type scales to measure the constructs of anticipated satisfaction and anticipated regret based on Oliver (1997) and we sought to maintain consistency with the methodology of self-report in measuring emotions (Ben-Shakhar et al. 2004). To rule out key alternative explanations to the experiment results, we observed strict enforcement of controls. Table 1 depicts the controls.

Prior to the actual auction experiment, we conducted two pilot tests. The first test aimed to classify the price parameters (i.e., buyout price, starting price and bid increment) into low or high price contrast categories. For instance, a set of price parameters of \$20 buyout price, \$18 starting price, and \$0.50 bid increment would be deemed a low price contrast compared to another set of price parameters of \$20 buyout price, \$5 starting price, and \$0.50 bid increment. Nine IS graduate students who were cognizant of online auctions were recruited to sort through the price data collected from eBay auctions into categories; they based the categorization on starting price, buyout price, and bid increment. The second pilot test gauged the 9 participants' responses to the auction system through completing 26 rounds of auctions and questionnaires. Based on their feedback about the system and the experimental procedures, we modified the experimental instructions and number of questions, and resolved system bugs. All participants in the pilot tests were able to detect the two independent variables: buyout permanence and price contrast.

Table 1. Controls for Alternative Explanations of Results

Confounds	Impact	Remedy
Intrinsic risk tolerance level	Participant who is more likely to be a risk-taker will perceive bidding to be more favorable than buyout. Such preference could heighten perceived satisfaction from bidding.	Risk propensity would be measured through self-reporting. It would be used as covariate during data analysis.
Price range (i.e., number effect)	Participant may perceive a decision for a product of above \$200 to be more risky than that for a product below \$50.	Three sorting sessions were conducted to categorize the prices downloaded from eBay into high and low. During the experiment, each participant would make decisions for both categories of products.
Prior knowledge	Participants with prior experience could amplify the task-induced experience.	The participants recruited would be screened for previous trading and online buying experience.
Incentive	Inadequate incentives will not motivate a participant to take the decision seriously.	Monetary payoff was tagged to the participants' decisional performance.

Table 2. Questionnaire Items

Items related to Buyout	Items related to Bidding
Anticipated satisfaction	
<i>How satisfied do you expect yourself to be if your decision is for buyout?</i>	<i>How satisfied do you expect yourself to be if your decision is for bidding?</i>
I could be displeased with myself (AregB1)	I could be displeased with myself (AregD1)
I could be disgusted with the auction outcome (AregB2)	I could be disgusted with the auction outcome (AregD2)
I could be very dissatisfied with the decision (AregB3)	I could be very dissatisfied with the decision (AregD3)
I could consider it a poor choice (AregB4)	I could consider it a poor choice (AregD4)
I could be unhappy with the decision (AregB5)	I could be unhappy with the decision (AregD5)
Anticipated regret	
<i>How do you expect your feelings to be if your decision is for buyout?</i>	<i>How do you expect your feelings to be if your decision is for bidding?</i>
Probably a regrettable decision (AsatB1)	Probably a regrettable decision (AsatD1)
Many doubts about the choice (AsatB2)	Many doubts about the choice (AsatD2)
Probably consider it the wrong decision (AsatB3)	Probably consider it the wrong decision (AsatD3)
Most likely will not make the same choice again (AsatB4)	Most likely will not make the same choice again (AsatD4)
Could be better off by choosing another option (AsatB5)	Could be better off by choosing another option (AsatD5)

Experimental Procedure

A total of 83 undergraduates (49 males) from a local public university were recruited. We randomly assigned them to groups to minimize the possibility of individual characteristics affecting the results. In all, 70 percent of the participants did not have prior experience with online auctions and 43.4 percent of them had modest online auction knowledge. Participants were given the scenario of acquiring commodity products and were primed to shop at an online auction website. After reviewing the instructions, each participant logged on to the system and completed a demographic questionnaire. A simple tutorial on the interactive system and two trial trading periods for familiarization followed to clarify any question regarding the auction process. The participants were not allowed to communicate during the experiment. They were also advised that their monetary reward would depend on their performance.

Each participant completed 24 actual trading periods. In each period, the system randomly presented one combination of price parameters from different treatment groups (buyout permanence and price contrast) to participants while ensuring they would encounter all treatments. Sequence effect was controlled.² Each participant encountered eight combinations of price combinations in the 2×2 factorial categories. The sequence was predetermined to offset any possible confounding sequence effect. After viewing the price parameters, each participant was asked to answer the questions measuring anticipated regret and anticipated satisfaction for decision to buyout and decision to bid (Likert scale of 7, with 1 being strongly disagree and 7 being strongly agree; see Table 2). The dependent variables of *anticipated regret of buyout over bidding* and *anticipated satisfaction of buyout over bidding* were coded by adding 7 to the difference between the reported anticipated emotions for choosing buyout and the reported anticipated emotions for choosing bidding. For instance, if the reported anticipated regrets were 3 and 5 for buyout and bidding respectively, then the *anticipated regret of buyout over bidding* would have the value of 5 ($3 - 5 + 7$). Adding 7 ensured that all values are positive (see Tables 3 and 4).

Each trading period lasted approximately 90 seconds. The participant was given the option to buy out at the prevailing buyout price or bid from the starting price following the proxy bidding mechanism. The system alerted the buyer when he was being outbid and prompted him to enter another bid. The auction was automatically extended if a new bid was placed during the last

²For each trading period, one set of price parameters—buyout price, starting price, bid increment, and valuation price—is provided. To control for sequence effect, the order of price parameters presented to the participants differs from one participant to another. For instance, participant A views price parameters set X first, followed by price parameters set Y; while participant B views price parameters set Y first, followed by price parameter set X.

Table 3. Factor Analysis of Questionnaire Items

Items	Component	
	1	2
Asat1 – I could be displeased with myself	.773	-.597
Asat2 – I could be disgusted with the auction outcome	.779	-.591
Asat3 – I could be very dissatisfied with the decision	.784	-.586
Asat4 – I could consider it a poor choice	.757	-.609
Asat5 – I could be unhappy with the decision	.772	-.603
Areg1 – probably a regrettable decision	-.601	.775
Areg2 – many doubts about the choice	-.580	.790
Areg3 – probably consider it the wrong decision	-.600	.778
Areg4 – most likely will not make the same choice again	-.619	.756
Areg5 – could be better off by choosing another option	-.604	.774

Asat denotes anticipated satisfaction; **Areg** denotes anticipated regret.

Table 4. Reliability Testing and Cronbach's Alpha of Questionnaire Items

Items	Mean (std dev.)	Cronbach's Alpha
Anticipated satisfaction of buyout over bidding^a		
(Item 1) AregB1 – AregD1 + 7	7.8991 (3.1502)	0.988
(Item 2) AregB2 – AregD2 + 7	7.9691 (3.1356)	
(Item 3) AregB3 – AregD3 + 7	7.9604 (3.1686)	
(Item 4) AregB4 – AregD4 + 7	7.9470 (3.2536)	
(Item 5) AregB5 – AregD5 + 7	7.9063 (3.1911)	
Anticipated regret of buyout over bidding^a		
(Item 1) AsatB1 – AsatD1 + 7	6.0561 (3.2695)	0.990
(Item 2) AsatB2 – AsatD2 + 7	6.0242 (3.2427)	
(Item 3) AsatB3 – AsatD3 + 7	6.0587 (3.2881)	
(Item 4) AsatB4 – AsatD4 + 7	6.1061 (3.1620)	
(Item 5) AsatB5 – AsatD5 + 7	6.1025 (3.2852)	

^aThe mean (std dev.) depicted here is based on the relative difference in the reported anticipated emotions for buyout over bidding. For instance, anticipated regret of buyout over bidding for item 1 is computed based on adding 7 to the difference between response for anticipated regret for choosing buyout (AregB1) and response for anticipated regret for choosing bidding (AregD1).

10 seconds until there was a period of 10 seconds in which no new bid was submitted. Participants were led to believe that they were bidding against many other buyers. In fact, simulated buyers were used to randomly bid (or buyout) against each participant to keep buyer behavior constant (Walker et al. 1987). On completion of each period, the buyer was asked to rate items measuring perceived regret and perceived satisfaction. The difference between the buyer's valuation³ and the closing price was recorded as his surplus if he won. The participant was awarded zero surpluses for failure to win the bid. Upon completion of 24 periods, the system computed and logged the amount of money earned by the participant, and the cash reward was duly disbursed to him.

³The valuation price across different trading period does change as during the experiment, all participants went through two price categories: three-digit items (e.g., \$120) and two-digit items (e.g., \$50). Due to the difference in price, buyer's valuations were altered correspondently. A valuation price for each combination of the buyout price, starting price, and bid increment was predetermined. We kept the valuation price at a constant percentage higher than the buyout price.

Data Analysis

Prior to testing the hypotheses, the anticipated regret and anticipated satisfaction variables were assessed for internal and external validities. Results from factor analysis reflected no apparent indication of violation of discriminant validity (Table 3) and reliability analysis of the scales showed Cronbach's alpha values well above the minimum acceptability of 0.7 suggested by Nunnally (1978) for basic research (see Table 4). Items corresponding to each variable were averaged to create an overall measure for each variable for subsequent statistical tests.

Results of Hypothesis Testing

Table 5 shows the descriptive statistics for both price contrast and buyout permanence. Statistical tests were carried out based on a 5-percent level of significance. Since anticipated satisfaction of buyout over bidding and anticipated regret of buyout over bidding were significantly correlated ($R^2 = .963$, $p < .01$), a MANOVA test involving both independent variables (buyout permanence and price contrast) and two dependent variables (anticipated satisfaction of buyout over bidding and anticipated regret of buyout over bidding) was carried out. It detected an interaction between both independent variables ($F = 38.887$, $p < .01$). This result was confirmed by a MANCOVA test ($F = 36.907$, $p < .01$) using risk propensity (i.e., risk level tolerable to individual participants) as covariate. This finding allowed ANCOVA using risk propensity as covariate to be applied separately to anticipated satisfaction of buyout over bidding and anticipated regret of buyout over bidding. The results were further confirmed by ANOVA tests. Both H2a and H2b were found to be significant with H2a ($F = 264.568$, $p < 0.01$) and H2b ($F = 250.004$, $p < 0.01$). Hence, both H2a ($7.12 > 5.01$, $p < 0.01$) and H2b ($6.93 < 8.95$, $p < 0.01$) were supported.

Buyout permanence was found to be a significant factor influencing anticipated regret of buyout over bidding ($F = 110.009$, $p < 0.01$) and anticipated satisfaction of buyout over bidding ($F = 122.743$, $p < 0.01$). However, the means depicted in Table 5 indicate that higher permanence leads to *lower* anticipated regret of buyout over bidding and *higher* anticipated satisfaction of buyout over bidding. Hence, H3a and H3b were not supported.

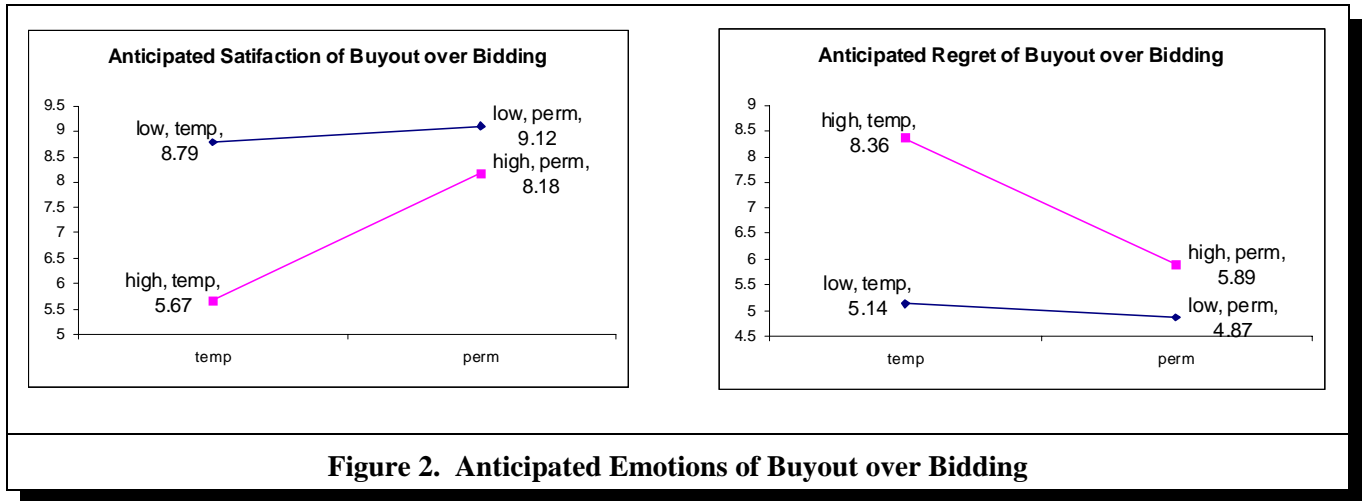
ANCOVA tests detected significant interaction effects involving the independent variables of price contrast and buyout permanence ($F = 122.743$, $p < 0.01$). For each dependent variable, two sets of simple effect analyses (Keppel 1991) were conducted to examine the interactions. T-tests were carried out to test for simple effects of price contrast and buyout permanence. Mann-Whitney U test was used to confirm the results obtained. Table 6 depicts the means (standard deviations) for the four groups under price contrast and buyout permanence.

Table 5. Mean (Standard Deviation) of Dependent Variables

Price Contrast	Anticipated Satisfaction of Buyout	Anticipated Regret of Buyout	Decision to Buyout
High	6.93 (3.154)	7.12 (3.189)	.38 (.485)
Low	8.95 (2.745)	5.01 (2.788)	.72 (.450)
Buyout Permanence	Anticipated Satisfaction of Buyout	Anticipated Regret of Buyout	Decision to Buyout
Permanent	8.66 (2.732)	5.38 (2.809)	.66 (.473)
Temporary	7.25 (3.325)	6.73 (3.369)	.44 (.496)

Table 6. Descriptive Statistics (Interaction Effects) of Dependent Variables

Buyout Permanence	Price Contrast	Anticipated Satisfaction of Buyout	Anticipated Regret of Buyout	Decision to Buyout
Perm	Low	9.12 (2.579)	4.87 (2.625)	.76 (.426)
	High	8.18 (2.805)	5.89 (2.898)	.56 (.497)
Temp	Low	8.79 (2.895)	5.14 (2.938)	.67 (.469)
	High	5.67 (2.984)	8.36 (2.987)	.19 (.395)



First, the data was split along buyout type. In the temporary buyout treatment, our results indicate that participants facing high price contrasts anticipated more regret in buyout than in a low price contrasts condition (8.36 versus 5.14, $p < 0.01$). Similarly, in the permanent buyout treatment, higher anticipated regret of buyout was experienced (5.89 versus 4.87, $p < 0.01$). Likewise, in the temporary buyout treatment, participants facing low price contrast experienced higher anticipated satisfaction of buyout over bidding than in high price contrast condition (8.79 versus 5.67, $p < 0.01$). In the permanent buyout treatment, participants in the low price contrast condition anticipated higher satisfaction of buyout than in the high price contrast condition (9.12 versus 8.18, $p < 0.01$).

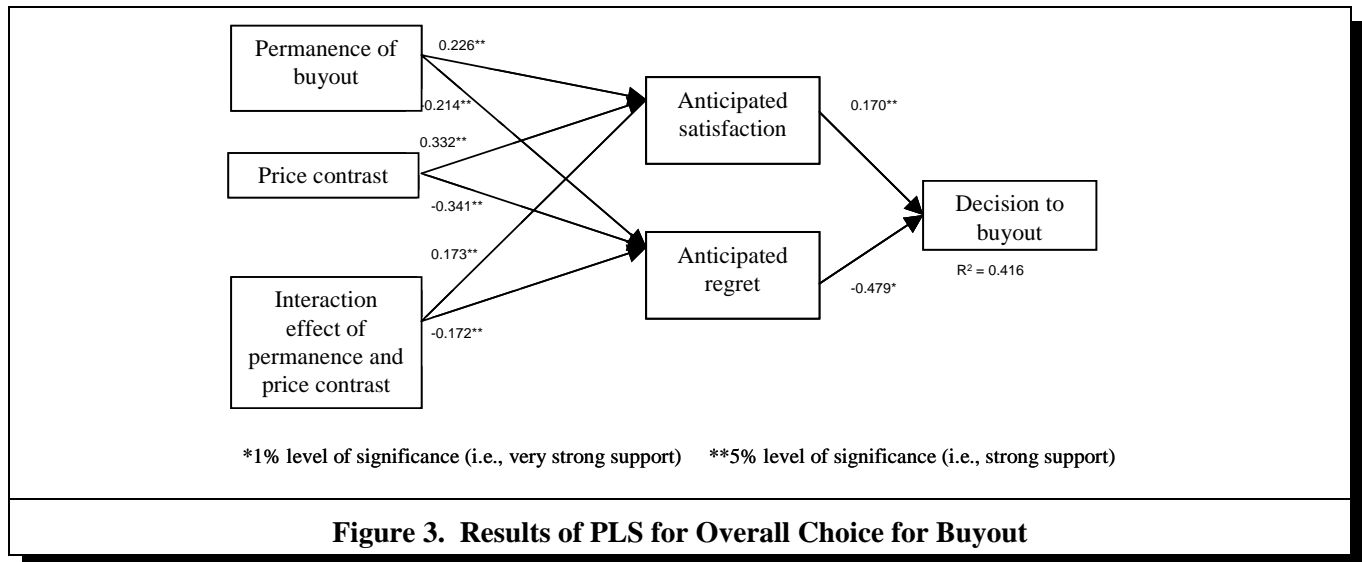
The data was next split along price contrast. In the low price contrast treatment, there was no significant difference in the level of regret experienced ($Z = -1.184$, $p > 0.1$), although participants facing the temporary buyout option experienced higher regret of buyout than in the permanent buyout option (5.14 versus 4.87, $p > 0.1$). In the high price contrast treatment, participants facing the temporary buyout option experienced higher anticipated regret of buyout over bidding compared to the permanent buyout option condition (8.36 versus 5.89, $p < 0.01$). Similarly, in the low price contrast treatment, participants facing the permanent buyout option anticipated higher satisfaction of buyout over bidding than in the temporary option condition (9.12 versus 8.79, $p < 0.01$), and in the high price contrast treatment, higher anticipated satisfaction was experienced by those facing permanent buyout than those facing temporary buyout (8.18 versus 5.67, $p < 0.01$). Figure 2 shows the results of these simple effect analyses.

Since both price contrast and buyout permanence were found to statistically affect the formation of anticipated emotions, the next step was to assess the influence of anticipated emotions on decision to buy out. H1a and H1b posited that the emotions of satisfaction and regret are significantly related to decision for buyout. Partial least square (PLS) was used to test the hypotheses. Figure 3 shows the results. R^2 indicates the amount of variance explained by the model. Choice to buy out can be distinguished into initial choice to buy out ($R^2 = 0.400$) and overall choice to buy out ($R^2 = 0.416$) where the choice was initially to bid, then to buy out. Both anticipated satisfaction and anticipated regret were found to significantly influence decision to buy out. Hence, H1a and H1b were supported.

Discussion of Results

This study examines the influence of price contrast and buyout permanence on anticipated emotion formation, namely anticipated satisfaction of choice and anticipated regret of outcome, which in turn affect decision to buy out. The results provide support for our postulation that buyers would prefer to engage in bidding and utilize the buyout option later if the contrast between starting price and buyout price is high. Consequently, anticipated regret and anticipated satisfaction of buyout over bidding is high and low respectively.

The results on influence of buyout permanence are counterintuitive. Under the temporary buyout auction condition, participants in our study preferred to bid to eliminate the possibility of someone ending the auction prematurely. However, under the permanent buyout auction condition, participants perceived a threat of other buyers exercising the buyout option during the bidding process, leading to the realization of lower anticipated regret of choosing the buyout option right at the beginning. Evi-



dently, the certainty of winning the auction through buyout gave bidders a higher anticipated satisfaction of buyout over bidding. One plausible explanation for the observation is the concept of loss aversion, where a person may exhibit preference for winning (over expected profit), even when the expected profit is much higher than the surplus from buyout (Kahneman 1992).

Our further analysis of the interaction effect of price contrast and buyout permanence generates several insights. In both buyout permanence conditions in our study, when the price contrast was low, anticipated satisfaction of buyout was higher than when the price contrast was high. The reason could be that as the starting price reached the buyout price after a few rounds of bidding, the attractiveness of bidding paled. In contrast, under the same conditions, anticipated regret of buyout was lower as it was likely that the bidding activity might push the bid price above the buyout price offered previously. Further, to avoid regret when the bidding price exceeded the previously offered buyout price to the extent that it even exceeded the buyer's valuation, the buyer would prefer to choose buyout from the start.

Under the temporary buyout condition, we observed that anticipated satisfaction of choosing to buy out was lower in a high price contrast auction than in a low price contrast auction. The reason could be that the anticipated surplus to be won through bidding was much higher than the expected surplus if the buyout option were exercised. Similarly, the results indicate that anticipated regret of buyout was higher in a high price contrast auction than in a low price contrast auction. The reason is that participants perceived greater surplus to be gained through bidding. However, we note that even if a buyer chooses to bid, one may still have to offer a higher bid price exceeding the previously offered buyout price (or within one's valuation) to win. In such a situation, a buyer may suffer regret over the thought that he could have saved by exercising the buyout option right at the beginning. Engelbrecht-Wiggans (1989) terms this as the "money left on the table" regret.

Under the permanent buyout condition, the buyout option remains available even if bids are received. When facing low price contrast, participants in our study expressed higher anticipated satisfaction of buyout than those facing high price contrasts. The reason could be that in low price contrast conditions, the possible number of bids to be placed before the bidding price matched the buyout price was low. Furthermore, with the permanent presence of the buyout option, participants could perceive it a "safer" choice to buy out. As a result, participants anticipated higher satisfaction of buyout in a low contrast auction than in a high contrast one. In terms of anticipated regret of buyout, participants in our study reported higher anticipated regret in high price contrast auctions than in low price contrast auctions. As the possible surplus to be gained through bidding was much higher in a high contrast auction, participants would prefer to bid than buy out, and only use buyout when the bidding price approached the buyout price (Lou and Zhong 2003).

Essentially, buyout permanence could act as a double-edged sword for a buyer. This is because there is a constant danger that any other buyer can exercise the option and the buyer who chooses to bid would immediately lose. In order to avoid such regret, buyers would prefer to buy out even when the possible surplus to be gained through bidding is much higher in a high price contrast auction, rather than use the buyout option when the bidding price approaches the buyout price. This also provides justification that anticipated satisfaction and anticipated regret are not reverse emotions of each other.

Comparing the effects of buyout permanence under different price contrast conditions produces several interesting findings. When facing low price contrast, the results indicate no difference for anticipated satisfaction of buyout between participants with temporary and permanent buyout options. This could be due to the unattractiveness of the anticipated surplus, which led the participants to not anticipate any significant satisfaction derived from winning. However, participants reported greater anticipated regret of buyout over bidding in a temporary rather than a permanent buyout condition. The reason could be that as the expected surplus in low price contrast conditions was quite insignificant, a buyer would prefer to bid aggressively (Hansen and Lott 1991) and not mind (i.e., regret) losing the small surplus even if the aggressive bidding ultimately pushed the winning bid beyond the buyout price.

When facing high price contrast, participants reported higher anticipated satisfaction of buyout in a permanent buyout auction than that in a temporary buyout auction. As the danger in a permanent buyout auction was high, participants could anticipate higher satisfaction in exercising the buyout option despite many chances for bids to be placed before the bid price matched the buyout price. This result provides further empirical support for our loss aversion conjecture mentioned earlier. In terms of anticipated regret to buy out, participants in our study reported higher anticipated regret in a temporary buyout auction condition than in a permanent buyout auction. The opportunity cost of forgoing the large potential surplus when the buyout option was exercised was high. By placing the first bid, the temporary buyout option would no longer exist and other buyers could only bid. In addition, buyers could also perceive the thrill of bidding to outweigh the surplus derived from buyout (Bazerman 2001), further encouraging the choice to bid. Future research could explore the influence of the thrill and enjoyment of bidding on buyer behavior.

Limitations and Implications

Before we discuss the implications of this study for research and practice, we acknowledge its limitations. First, the repeated use of the same questionnaire might have caused participants to feel so familiar with it that they would not bother to answer each question carefully and accurately. However, we believe that with the auction parameters constantly changing, the order of the questions randomly determined, and the entire experiment lasting not more than 1.5 hours, such effect should have been minimized. Furthermore, given that the participants' rewards were tied to their performance, the participants should be motivated monetarily to give accurate answers. Second, the findings could be limited by the degree of realism in the experiment due to the use of students as participants. However, prior studies comparing the use of students and practitioners as subjects could not find sufficient evidence indicating a difference in the results between the two groups of participants (Holt and Issac 2002). Hence, we believe that the choice of students as experiment participants was appropriate and the results should be able to shed light on the impact of buyout.

This paper contributes to the extant literature in several ways. First, our study focuses on the decisional choice on buyout, which is an option not available in the conventional auction study. To the extent that the buyout option provides a quick "escape" from bidding, it could affect consumer behavior. In this vein, we have provided a deeper understanding of the forces behind bidding behavior and have helped to bridge the gap between auction theory and actual practice.

Second, by explicit consideration of anticipated emotions in the derivation of decisional choice, we have provided empirical evidence supporting the emotion conjecture posited by the counterfactual thinking theory (Greenleaf 2004). Moreover, by examining anticipated satisfaction and anticipated regret, we have provided a conceptual view of two types of anticipated emotions formed during decision-making. As depicted in the results, the impact of auction parameters have differentiated consequences on the formation of the two anticipated emotions (i.e., anticipated satisfaction is not merely the reverse emotion of anticipated regret). We believe ours is among the first studies to incorporate the impact of emotions in the study of buyout auctions.

Third, we have conducted rigorous laboratory experiments to establish our findings to complement the extant research dominated by field studies or economic modeling (e.g., Lucking-Reiley 1999, 2000). Thus, the current study is believed to be beneficial to compensate the deficiencies of the basic rationality assumptions in many of the prior modeling studies. Furthermore, the research methodology proposed can further contribute to the development of the research stream by incorporating the consumer's behavioral and psychological perspectives into the specific online auction research arena.

Results of this study should provide some suggestions to auction website marketers in delineating the availability (and type) of buyout options and to sellers in defining price parameters. Pinker et al. (2003) contended that by setting a high starting price, sellers have to face a higher risk of not being able to attract buyers and, consequently, not being able to auction off the items. Similarly, by setting a low starting price, sellers have to face the risk of having the items auctioned at closing prices lower than

what the items would have sold in an auctioneer's storefront (e.g., Amazon.com). In this study, our results suggest that sellers should not only consider starting price but also whether the main objective is to induce buyers to buy out or bid for the product. According to these considerations, sellers could list the buyout price strategically to serve as reference point for buyers' evaluation. With this view, marketers and sellers could influence buyer behavior and response toward the product being auctioned by inducing favorable emotional responses and evaluations. Buyers need to be more aware of the intentions of sellers in delineating parameters. They also need to be attentive to their own evaluations and the formation of emotions during decision-making. To the extent that such awareness could be formed, buyers could potentially make better choices that minimize the realization of negative emotions (e.g., regret) and maximize the positive emotions (e.g., satisfaction).

Conclusion

The buyout option offers a buyer the opportunity to bypass the hassle of bidding and obtain the item immediately at the posted price. Given its face benefits, the buyout option will continue to be a key feature of online auctions. This study has provided a more systematic examination of the impact of buyout option on buyer behavior. We believe research on buyout option deserves more attention not only because of its research implications, but also for its practical contributions toward making online auction a success. In this light, we hope that our research has helped to contribute to a richer understanding of the mental and emotional evaluation of the buyout option.

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