An Investigation of Book Market Aggregation in Amazon

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An Investigation of Book Market Aggregation in Amazon

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ABSTRACT

The launch of Amazon’s e-Marketplace to co-locate primary (sale of new books) and secondary (resale of used books) markets has disrupted the serenity of the book markets and invited enormous debate over the survivability of the primary market sellers. Grounded on information economics and decision under uncertainty, this study takes a different perspective by arguing that whether Amazon’s market aggregation initiation will adversely affect new booksellers depends on whether the consumers perceived the quality of both new and used books to be symmetrically uncertain or asymmetrically uncertain. The research further explores the possibility of how the reputation feedback mechanism could be beneficial to the new booksellers.

KEYWORDS

Online book competition, market aggregation, consumer choice.

INTRODUCTION

“Is Amazon becoming the Napster of the book business?”

- New York Times, July 12, 2004

“For now, the effect of used trade book sales on new trade titles is unclear”

- Publisher Weekly, September 27, 2004

The primary and secondary markets have co-existed in harmony for years. On the one hand, these two markets serve different customer segments that have differing preferences for quality and price. On the other hand, the secondary market has always been selling used books at a low profile. Exemplary, the trading of used books has been confined in both the offline and online contexts, to musty stores, flea markets, fund-raising events and consumer-to-consumer auction websites such as eBay and Yahoo!Auction. Hence, secondary market does not directly threaten the primary market to the extent of affecting the profitability from the sales of new books significantly. However, the launch of Amazon e-Marketplace to list old copies of current and popular books alongside with Amazon’s new titles in November 2000 has disrupted the serenity of the book markets and invited enormous debate over the survivability of the primary market sellers.

Amazon’s high profile dissemination of used books has brought the secondhand books to the attention of book readers like never before (Streitfeld, 2000). Amazon adds links that present much cheaper used books to the same pages that highlight the more expensive new copies, inducing shoppers to purchase used books. This is coupled with the fact that these used books are often offered for sale at the same time as the books’ original publication or a few days later, without giving the novel a chance to become generally available. In this vein, the co-location of the used and new books could possibly cause the used books to cannibalize the sales of old books. Since neither the authors benefit from the royalty fees nor the publishers receive any profit from the sales of used books, the market aggregation initiative could reduce the author’s incentives to write and publishers’ incentives print books (Ghose, Telang, and Krishnan, 2003). Even though there is no concrete evidence indicating cannibalization of sales, market analysts are concerned that the fundamental principle of publishing economics (i.e. the royalty framework) has been disturbed (Tirole, 1988). A few percentage points of lost new book sales to online sales of used books are already critical to a slow-growing publishing industry. Furthermore, some authors may take pride in their works and perceive that their books should worth more under any circumstances; hence seeing their books being traded at such a low price may inflict ‘emotional wounds’ on the authors.
However, Amazon holds a somewhat different viewpoint by suggesting that market aggregation would in fact bring about a win-win situation for all three parties, namely Amazon, consumers and authors in two ways. First, by offering owners an outlet to dispose used books that still have market value and have been derived of utility (Ghose et al., 2003), it gives them a budget to buy more new books (i.e., translating to higher overall market demand for new books). Second, given the inefficiency of the book distribution system and the rapidity in which books become unavailable, the market aggregation would allow many authors to have a chance of being discovered. From this perspective, although there is no direct profit to the author when a copy of his book is resold, there is considerable indirect profit. A reader who reads and admires one’s books in a second hand copy becomes a potential reader or even buyer of one’s next book, and serves to be a sales representative for that particular author through recommendations to other readers. In this sense, the market aggregation may not be a bad idea after all.

To the best of our knowledge, extant studies have not adequately addressed the business and economic impact of market aggregation. One notable exception is the study by Ghose et al. (2003) that includes a game-theoretical model to examine the interactions between sellers and consumers. Deducing from the model, the authors conclude that the presence of the secondary market provides an avenue for consumers to liquidate their second-hand books, which in turn increases the consumers’ disposable incomes to acquire additional new books. Still, the study has failed to provide sufficient evidence to reason why the consumers would prefer to acquire new books rather than the old books while the various sellers within these two markets are intensively evaluated against each other. In this light, our objective is to explicate the conditions under which the new or old books are more likely or less likely to be chosen by the consumers in the online context from a buyer’s perspective. Specifically, we examine the issue of market aggregation from the perspective of information provision by seeking to answer the following research question: How do consumers compare between new and used book offers and make purchase decisions online?

**PRICE, QUALITY AND VALUE**

The principles of the cost-benefit analyses have been exemplified in the concept of value, which broadly defines the trade-off between total benefits received and total sacrifices, reflected in the trade-off between effort to be expended on information acquisition and accuracy of the decision. Earlier interpretations of benefit and cost components centered on perceived quality and monetary price. In the current context, the quality refers to the quality of the books purchased which is indicated by seller’s product classification and the feedback information (e.g., feedback rating and feedback comments), while price refers to the actual price paid for the book acquired over the Internet. Building on the trade-off notion, the current research draws upon the choice under uncertainty literature (Kahneman and Tversky, 2000) and information economics (Kirmani et al. 2000), to assess consumer choice by simulating the environment in which decision-making occurs. Specifically, we contend that the economic impact of the market aggregation exerted by Amazon may depend on two aspects of information provision: what is known (information asymmetry between sellers and consumers) and what is provided (information cues to be provided to consumers, particularly through reputation feedback mechanism).

**INFORMATION ASYMMETRY AND CONSUMER CHOICE**

Traditional perspectives on the effects of information, such as advertising, have focused on the information acquisition, integration and retrieval processes in consumer judgment and choice (Payne and Bettman, 1999). Increasingly, researchers have attempted to integrate information economics into the traditional behavioral perspective and this integration of theoretical views has touted to yield more insightful observations. The information economics approach is based on the premise that different parties in a transaction often have different amounts of information regarding the transaction, and this information asymmetry has implications for the terms of the transaction and the relationship between the traded parties (Kirmani and Rao, 2000). In online markets, where products (e.g., books listed for sell in Amazon) are not physically available for inspection (Shaked and Sutton, 1982) and product information needs to be experienced, information asymmetry exists. Specifically, in the current context of information acquisition and processing to make a choice among different product options provided by different sellers, it is assumed that consumers would evaluate each option based on its desired attributes according to which various sellers can be differentiated into certain parties involving in the aggregated online market. Limited information about the product or service normally results in two possible outcomes: Adverse Selection and Risk Aversion.
Figure 1. Information Asymmetry between Buyer and Sellers

In the first scenario (Figure 1), sellers have perfect information while consumers have limited information. This may result in market failure or the sale of relatively low quality goods (i.e., the used books) only if the market somehow manages to survive in the first place (Akerlof, 1970). In the current context, the product quality is indicated through the seller-defined classification as new or used book while more detailed quality condition may be addressed according to Amazon defined categories (e.g., like new or acceptable for used books), and the seller-provided product descriptions. Therefore, consumers are less likely to be able to estimate the quality of products with a certain level of confidence, partly due to the lack of physical goods inspection via the Internet and it remains unknown if the sellers are capable of providing such quality products. Reflected in the Amazon.com setting, for example, in the new book category, the description of some books may be unclear (e.g., a nice clean paperback copy with no marks to text) which may make the buyer confused to estimate the true quality of the new book provided, although it has been classified as new book. On the other hand, the similar situation may happen in the used book category as well, e.g., the like new or acceptable quality condition for some used books is quite vague as the actual standard to measure acceptable is unknown for the buyer but only known by the seller himself/herself. However, consumers are generally concerned about the quality of the product, for e.g., whether the book will be delivered and in good readable condition as the seller describes. In this situation, consumers could only base their decision on another product attribute, i.e., price, to mitigate the potential loss resulted from relatively weak quality estimation under information asymmetry. For that reason, consumers are driven towards the purchase of lower-priced products, usually the used books, which in turn leads to lower incentive for sellers to sell high-quality products with high production cost (e.g., the new booksellers or publishers). Ultimately the high-quality sellers exit the market, leaving the “lemons” behind (Tirole, 1988). These low-quality inefficiencies may be attributed to an externality in which sellers (more precisely, the publishers) fail to completely capture the benefits of selling high-quality products (Akerlof, 1970). In this sense, when consumers base their decision solely on the product price offered by different sellers, it appears that the new booksellers are at a more disadvantage than used booksellers in market aggregation are since they often sell the books at a higher price. Consumers may also find it difficult to evaluate the products offered in terms of their quality, as the information is often unavailable. In this way, consumers find it hard to differentiate new booksellers’ product offers from that of the used book competitors. Thus, the average willingness for the consumer to fork out more money for new books decreases accordingly. Hence, we propose:

Proposition 1: Consumer is more likely to choose a lower price book (mostly represented as used book) than higher price book (mostly represented as new book) when the quality of both new and used books cannot be ascertained.

The second scenario (Figure 2) pertains to a choice between an option of reasonably quality certainty (new book) and an option of quality uncertainty (used book), instead of between new and used books under pure information asymmetry condition. This is because compared to the used booksellers, the new booksellers are mainly dominated by the publishers and distributors, who have higher brand establishments, and hence, consumers are believed to perceive new booksellers to be more trustworthy (i.e., higher level of perceived product quality and quality certainty) (Pavlou and Gefen, 2004). Theoretically, this form of decision refers to risky choice under the broad umbrella of prospect theory (Kahneman and Tversky, 2000).

Based on antidotal evidence, Amazon has more stringent criteria and evaluation criteria to for a seller to be qualified as new booksellers. Hence, very often, these new booksellers are publishers or distributors who have regular business dealings with Amazon.
One emblematic experiment on risky choice involves a choice between a prospect that offers an 85% chance to win 1000 (with a chance to win nothing) and the alternative of receiving $800 for sure. The experimental results indicate that a large majority of people prefer the sure thing over the gamble, although the gamble has higher (mathematical) expectation (Kahneman and Tversky, 2000). It shows that the prospect of gaining something for sure will be relatively more attractive than gaining something with uncertainty while the perceived optimal outcome in uncertain condition will be slightly better than that of certain condition, known as risk aversion. The situation is similar as the aggregated book market purchasing decision making in order to gain the product entity differentiated by its quality, while the new book with certain good quality has relatively higher price than the used book with uncertain quality level. This observation can be better explained by referencing the regret theory. According to the theory, a decision-maker is aware that he will feel regretful if he makes a wrong choice (Bell, 1982) and hence, he will then take into account this anticipated regret when deciding. Research has shown that a consumer would more likely to choose the sure thing, that is risk averse (e.g., purchase new books), when they expect that they will not learn the outcome of the choice as in the case of book purchase (Loomes and Sugden, 1987). When consumers are confronted with a choice between a more certain option (i.e., purchase new books) and a risky option (i.e., purchase used books), the outcome of a certain option (i.e., purchase new books) is, by definition, known in advance. But choosing the risky option implies that you will always know what outcomes the certain (new book) option entails, which is the source of future regret if the risky option fails to fulfill the expectation. From another perspective, it is also undeniable that the risky option carries some regret on its own if one chooses the certain option. Hence, the choice of the options is confounded with feedback on foregone outcomes. Specifically, choosing the certain option prevents feedback on what might have been, whereas the risk option provides this information, and thus carries the risk of regret. In order to minimize the anticipated regret, a consumer will be more likely to exhibit risk aversion during decision-making by choosing the certain (i.e., new book) option. In addition, the price gap between new book with certainly good quality and used book with uncertain quality is not large, sometimes even very small. Hence, guided by the risk aversion theorem, a large majority of consumers will more likely choose to pay a price premium to guarantee the quality of product they will achieve rather than taking the risk of compromising quality fulfillment just in order to save a small amount of money, especially suitable for the book purchasing case, namely the ascertained quality can outweigh a lower price. Regardless of the price dimension, this propensity for certain quality will become even more significant. Hence, we propose:

**Proposition 2:** A consumer is more likely to choose the new book when the quality of the new book is relatively more certain than that of the used book.

**REPUTATION FEEDBACK MECHANISM**

As discussed, information asymmetry feature of the electronic market may carry additional risks associated with fraudulent transaction under potential incomplete or distorted information provided by the seller. This problem is amplified in the online shopping context, where information on product quality is often obscured/misrepresented; thereby increasing consumers’ perception on choice uncertainty, likewise the situation in the aggregated primary-secondary e-Marketplace, such as Amazon. Further, to strengthen market performance especially when consumers are uncertain over the quality of both new and used books, the sellers’ identities are made known to consumers prior to purchases. Indeed, it is often observed that there is a tendency for sellers to “deceive” consumers on the Internet (Grazioli and Wang, 2001) as the quality can only be ascertained after consumption and when the sellers (particularly those used booksellers) focus on short term rather than long-term profitability (Milgrom, North, and Weingast, 1990). However, when the sellers’ identity recognition is perceived as important to fulfill their engagement in a long term relationship with online consumers, these sellers would be more willing to build up
their reputations and less willing to sell inferior products (Resnick, Zeckhauser, Swanson, and Lockwood, 2002). Thus, the online consumers’ perception towards sellers’ reliability can correspondingly be enhanced, as well as the seller-provided offers.

One increasingly common implementation is the inclusion of institutional mechanisms (such as the online feedback rating mechanism hosted by Amazon in this particular study) that serve as an informal buyer-driven certification system for sellers’ reputation (Pavlou and Gefen, 2004). The feedback rating mechanism possesses the ability to enhance buyers’ calculus-based credibility trust towards the other transacting party (Ba and Pavlou, 2002). In the Amazon setting, it consists of a feedback rating score and certain number of feedback comments based on which the rating score is generated, while the higher score approaching 5.0 indicates higher reputation level based on previous selling history. Moreover, the feedback comment is distinguished between positive and negative one, while the negative dimension is the main concern in current study because it is believed the negative comments possess much greater impact on consumers’ evaluation on the seller’s reputation. The dimensions composing feedback rating and comment rely on the seller’s honesty through the trading, the fulfillment of promised conditions, the actual quality received, the service efficiency, etc. Based on the established trust among potential parties (i.e. buyers with new booksellers) in the electronic market, buyers’ uncertainty perception over the product sold by certain sellers may accordingly be alleviated, including the product quality, services provided by the sellers, etc. With the involvement of feedback rating mechanism, the probability of repeated transaction is based on consumers’ information about the past behavior of all available sellers (Ba and Pavlou, 2002). To get as high feedback rating (i.e., the rating score) as possible, rational sellers would behave in a trustworthy manner rather than dishonest or opportunistic way to avoid consumers’ possible sanctions, which results in potentially high opportunity cost for the outcome of cheating (Ba and Pavlou, 2002). Hence, according to game theory (Milgrom et al. 1990), high feedback rating can transfer the trust from consumers to consumers namely will sufficiently lead potential consumers to trust the sellers, which further helps reduce consumers’ perceived transaction risk (i.e. quality uncertainty). Consequently, consumers are more willing to compensate the group of reputable sellers with certain price premiums (Rao and Monroe, 1996).

In relation to our context, one could have contended that used booksellers could leverage on the feedback mechanism to reduce the consumers’ propensity to purchase new books given the precondition of low-price attribute of used books. However, empirical evidence indicates that the impact of high feedback ratings could vary depending on whether the products sold are new or used. Particularly, Kalyanam and McIntyre (2001) suggest that high feedback rating helps increase the product prices significantly only for new products than those of the older ones. This is because according to the deception, trust and risk (DTR) model (Grazioli and Jarvenpaa, 2000), when rational and serious consumers encounter with much higher feedback ratings for secondary market sellers offering used books with much lower price than those primary market sellers, consumers be suspicious over the potential deception existence on the feedback comments. Furthermore, the high feedback ratings add additional credibility for the new product in primary market whose quality is more likely to be certain beforehand, while such effect becomes weaker for used product in secondary market with possible much more quality uncertainty and fluctuation. Consequently, the significantly differentiated assurances based on high feedback ratings (e.g., 4.8 or above in a 5-star mechanism) over the new and used items determine that consumers are more likely choose to purchase the new books even with a higher price premium than those of used ones (Smith and Brynjolfsson, 2001). Hence, we propose:

**Proposition 3:** High feedback rating will increase the propensity of purchasing new books higher than that of the used books.

Subsequently, we also need to look at the impact of negative feedback comments contained as the other determinant for the feedback rating score on the online shoppers’ purchasing decision. Assuming that sellers have yet to establish trust from the consumers, the existence of negative feedback comments is very likely to impair consumers’ perception of seller reputation (Ba and Pavlou, 2002), which is even more likely to supersede the effect of high feedback rating score (Resnick et al. 2002). Evidently, Lee, Im and Lee (2000) highlight that negative feedback comment has higher detrimental effect on the consumer choice for used products or products that are perceived to be riskier. This is because product quality from secondary market sellers is usually perceived to be inferior when compared to those from the primary market sellers (Smith and Brynjolfsson, 2001). Conceptually, as depicted in Figure 3 below, value of seller’s reputation function is based on the deviation from the reference point namely the highest feedback rating (i.e., 5 stars) for sellers and it is generally concave for new book seller and convex for old-book seller. These two conditions concur with the economic principle that marginal value decrease of seller’s reputation is steeper with the decrease of feedback rating which is resulted from increase of negative feedback comments for used booksellers than that of new booksellers (Tirole, 1988). Consequently, the perceived reputation of used bookseller is harmed more by the increase of buyers’ negative feedback comments that of new bookseller. Hence, even given the same
feedback rating results, as long as the negatives are available, consumers will be likely to form poorer reputation impression of the secondary market sellers and hence, deduce a lower anticipated product quality satisfaction, which indirectly sway consumers to the new book purchases. Following this argument, we propose:

**Proposition 4**: Negative feedback comments will decrease the propensity of purchasing used books higher than that of the new books.

![Value Function of Seller’s Reputation over the Feedback Rating](image)

**FUTURE RESEARCH AND CONCLUSION**

Grounded on information economics (Kirmani and Rao, 2000) and decision under uncertainty (Kahneman and Tversky, 2000), this study argues that whether Amazon’s market aggregation initiation will adversely affect new booksellers depends on whether the consumers perceived the quality of both new and used books to be symmetrically uncertain or asymmetrically uncertain. The research further explores the possibility of how the reputation feedback mechanism could be beneficial to the new booksellers. Several theoretical contributions and managerial implications can be derived.

From a theoretical standpoint, this study goes beyond the extant literature that has paid particular attention to how the primary e-Marketplace sellers could benefit from the significant reduction in search cost (e.g., Smith and Brynjolfsson, 2001) to qualify the influence of e-Marketplace aggregation initiation on consumer decision-making. Our literature review and deductions starkly challenge the implicit assumption that at the expense of the primary market sellers, consumers shopping online are likely to benefit from wider variety of alternative choices, and secondary market sellers are likely to benefit from a direct price contrast with the new offers. In fact, our findings provide compelling propositions suggesting that the primary market sellers may benefit more from the market aggregation by incorporating the substantial uneven information asymmetry effect and the disproportional influence of reputation identification mechanism over the two e-Marketplace segments. In this sense, this study extends our current state of knowledge in online consumer decision-making behavior by examining the impact of market aggregation and how primary market sellers could “defense” their fortress or “benefit” from the initiation.

From a practical standpoint, this study offers valuable advice to the new booksellers, as well as the electronic intermediaries (e.g., Amazon). For the new booksellers, this study allows them to make an informed decision on whether they should participate in the aggregated e-Marketplace like Amazon and how they could better leverage their participation by considerably facilitating consumers’ reach to inductive information. Because of a concern that new books sales may be cannibalized by the penetration of used book market, merchants have generally expressed intention to refrain from participating in Amazon. However, we believe that primary market sellers should not view the Amazon’s initiation as a catalyst of market competition, but rather, depending on how the consumers differentiated between new and used books, they should view Amazon as a place where certain favorable marketing strategies can be derived and pursued. For example, new booksellers could leverage on the reputation feedback mechanism to strengthen their brand establishments and induce the consumers to (continue) purchase their products. Intermediaries could apply our propositions to assuage primary market sellers’ anxiety that the market aggregation will lower their value of value of branding and reduce their profit margins. To the extent that the value of the book market aggregation is determined by the number and variety of participating sellers,
intermediaries, such as Amazon, could emphasize the advantages demonstrated in this study in their marketing campaign to attract more new booksellers.

As this study is still at a preliminary stage, the discussion of research methodology (i.e., future research) is relatively epigrammatic. Nonetheless, we believe that the two propositions can be assessed in two ways in a laboratory experiment. The first way is to use a between-subjects design, where the participants are randomly assigned to any one of the groups, namely the control group (i.e., all used or all new books) and new and used book treatment group. Each participant will be asked to shop for a book. To increase the incentives for the participants to focus on the task seriously, the participants will be told that the specific item will be converted to cash depending on the real book quality. After the task completion, the participants will answer questions that are intended to measure their thinking process. The second way to test the model is a within-subject design where each participant is asked to purchase products under conditions of all new books; all used books and mixture of new and old books. The order in which the purchase is to be conducted will be randomly determined. Each participant will have to purchase different book title for different treatment to minimize learning effect. The incentive mechanisms and data collection procedures will be the same as described for the between-subjects design.

In conclusion, gaining a better understanding of the impact of market aggregation and applying the appropriate strategies, new booksellers could leverage or exploit the market aggregation initiation to satisfy the consumers’ urge to compare and yet increase their returns at the same time.

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