

# Notes on Operations

## A Comparative Study of Amazon.com As a Library Book and Media Vendor

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*Amazon.com offers convenience, Web extras, and competitive pricing to its customers. Does this mean it could be a major player in the library marketplace? To answer the hypothetical question "What if the library bought everything from Amazon?" this paper reports on an in-house study of Amazon's potential and performance as a library vendor, using order data from the Belk Library at Appalachian State University.*

Amazon.com, from its incorporation in 1994, has become a business and cultural phenomenon. The firm's founder, Jeff Bezos, was *Time Magazine's* man of the year in 1999, and the story of Amazon's meteoric growth and corresponding fall is legendary. During the dot-com bust of 2000–2002, its per share price fell from its historical high of \$113 in 1999 to \$5.51 in 2001, and the company went from Wall Street darling to pariah.<sup>1</sup> Since then, Amazon has reported its first annual net profit of \$35.3 million for 2003, and share prices have bounced back.<sup>2</sup> The company continues an aggressive strategy of technological innovation and expansion, including acquisition of the Chinese online retailer Joyo.com in August 2004 for \$72 million.<sup>3</sup> Whatever its eventual fortunes as a business enterprise, Amazon has become enmeshed in contemporary culture; it makes news and inspires comment because of its name and history. Indicative of the omnipresence of Amazon.com, a keyword search in *Infotrac ASAP* using "Amazon.com" retrieved 2,189 articles, while a search using "Barnes & Noble," its largest books and media competitor, retrieved 956 articles. These results do not reflect Barnes & Noble's big-

ger market share of \$5.95 billion in sales, compared to Amazon's \$4 billion in books and media for 2003.<sup>4</sup>

Amazon is also the object of some interest within the library world. Coffman created a large ripple with a March 1999 article that argued for using Amazon as a model for libraries to collectively build a single, seamless worldwide library collectively.<sup>5</sup> Other articles have proposed emulating Amazon's reviews and reader's advisories, reported on linking to Amazon content from the online catalog, or described the experience of selling withdrawn titles or unwanted donations through Amazon Marketplace.<sup>6</sup> Several articles appeared after Amazon introduced their search-inside-the-book feature, which indexes the full-text of 120,000 titles and allows for browsing of small sections of retrieved books.<sup>7</sup> Just as coffee shops in bookstores are the inspiration for the spate of cafés in new library buildings, so also are Amazon's pictures of book jackets and reviews the inspiration for similar services from library book vendors.

Much of the research and commentary either holds up Amazon as a model or laments libraries' failures to achieve in almost forty years of library computerization what Amazon

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has delivered in a fraction of the time. This paper looks at the online retailer from a more prosaic angle: how does it perform as a library book and media vendor? Based on such measurable criteria as price, selection, reliability, and speed, how is Amazon best used? As a personal shopper, having spent \$1,372.03 at the Web site in five years, this author finds Amazon convenient, fast, and consistently well-priced.<sup>8</sup> Does this personal experience translate into a positive institutional one?

Library vendors, particularly large ones offering a full range of products and services, including approval plans, approach their business as a collaborative effort between themselves and their library clients. They work with libraries to develop highly detailed subject and format profiles that help to streamline the selection and acquisition of new materials. Discounts are agreed upon up front and the exceptions are known in advance. Successful client-vendor relationships depend on frequent communication to solve problems and identify new areas of service. Although Amazon offers bulk buying for institutions using a line of credit, it does not claim to be or act like a traditional library vendor. Amazon's pricing policies assumedly are based on an algorithm involving measurable inputs and outcomes, but an e-mail inquiry as to how they discount and market books received this polite response, "Due to the competitive nature of our business, our policy is not to give out information on the inner workings of our company."<sup>9</sup>

### Institutional Background and Methodology

To get some idea of the inner workings of Amazon and the resulting implications for libraries, this study used pricing and availability information available from their Web site and order data collected from the integrat-

ed online catalog of the Belk Library at Appalachian State University. Appalachian State University is a comprehensive university of approximately 750 faculty members and 14,000 students, 10 percent of whom are graduate students. Depending on fluctuations in the economy and state budgets, the library spends \$500,000 to \$600,000 per year on monographs, adding 15,000 to 19,000 titles per year. This study used two sets of order records drawn from the online catalog: one set of all 3,448 firm orders paid between September 1 and November 30, 2003, and analyzed March through July, 2004; and a second set of all 1,686 firm orders paid during August 2004 and analyzed September 1 through 22, 2004. For both sets, each title was searched in Amazon to check the discounted and list price. Titles that were not found after several search permutations were marked as unavailable through Amazon, although some of these could represent the author's inability to search the titles correctly. Titles that were only available through the Amazon Marketplace, an online clearinghouse for vendors and individuals selling used copies of titles, were treated as if they were unavailable.

### Availability

Out of 5,134 orders, 327 would not have been available from Amazon (see table 1). Most of these 327 orders required special handling: available only from the publisher, archival material for special collections, foreign imprints, or out-of-print titles. Sixty-seven titles were listed in Amazon as being no longer available. Forty-nine titles supplied by the library's primary monographs vendor and, though apparently not requiring special ordering, were not listed in Amazon.

### Pricing

The library purchased 4,644 items from traditional book vendors for \$166,649.87. These same materials could have been purchased from Amazon for \$179,415.68 (see table 2). The list price for these orders was \$196,623.08.

Belk Library contracts with a library vendor to supply some books on approval and to provide notification slips for other newly published titles. Approval and firm order books are supplied at a nominal discount of 16.5 percent. The actual discount is lower as some publishers are excluded, usually because the vendor is unable to

**Table 1.** Items not available from Amazon.com

Type of order	# unavailable	% of all unavailable	% of all orders
Publisher direct	157	32.0	3.1
Special collections	149	30.4	2.9
No longer available	67	13.7	1.3
Used	50	10.2	1.0
Not found	49	10.0	1.0
Foreign imprints	18	3.7	0.4
Total	327	100	6.4

**Table 2.** Cost for all orders available from Amazon.com

Vendor	Cost for 4,644 orders	% discount from list	Per unit cost
Amazon	\$179,415.68	8.75	\$38.63
Library vendors	\$166,649.87	15.24	\$35.88
List price	\$196,623.08	0.00	\$42.34

negotiate its own discount with those publishers. The library vendor supplied 3,517 of the 4,644 orders studied at a cost of \$138,588.39. The same orders were available from Amazon for \$151,049.55 (see table 3). The list price for these orders was \$164,148.61.

Amazon does not discount every title. For the two sets of order records analyzed, Amazon discounted 44 percent of the September through November 2003 orders and 52 percent of the August 2004 orders (see table 4).

Newer titles seem more likely to be offered at a discount than older items. The orders from August 2004 were more likely to be listed at a discount than those from the year before. During January through February 2004, the library bought 181 items from Amazon. The same items were checked again in September 2004. Twelve titles were listed as no longer available, although they could have been bought from Amazon's Marketplace service. Seven titles were listed as having a new list price. The remaining 162 titles, which had been purchased at a 20 percent average discount, had an average discount of

11 percent seven months later (see table 5).

The idea that pricing is fluid may come as a surprise to librarians, who are used to relatively stable book and media prices and negotiated discounts with book vendors. But upon reflection, an online store taking advantage of technology to set prices to maximize sales and profits makes sense. In a study of pricing and price competition at Amazon and Barnes & Noble, Chevalier and Goolsby found that the average discount at Amazon varied between 2.1 percent and 19.2 percent and the average discount at Barnes & Noble varied between 10.6 percent and 11.3 percent from April 14 to August 3, 2001.<sup>10</sup>

Amazon's discounted titles are offered at a significantly lower price than library vendors. Had the library bought all available titles discounted by Amazon, the savings would have been \$6,412.37 or 12.3 percent below the paid price. This is a significant saving, but it must be weighed against the cost of the extra staff time to research the best price for thousands of titles. Overall the library gets a better price using its standard ven-

dors without additional labor. If one could predict what Amazon discounts, one might either search this subset of orders in Amazon before sending them to a traditional vendor or simply send all of certain kinds of orders to Amazon, knowing that the odds of a lower price are in the library's favor. The problem lies in predicting what will be discounted.

### Predicting Discounts

As noted above, newer titles seem to be discounted more than older ones. Another possible predictor is subject area. To examine if a relationship exists between subject and lower price, 4,319 orders with Library of Congress (LC) call numbers in their bibliographic records (MARC fields 050 or 090) were analyzed as a group. Table 6 lists subjects and the number of discounted titles sorted by the percentage available at a discount. Some strong relationships between subject and likeliness of discount are evident, but this may represent buying patterns at Appalachian State University as much as discounting patterns at Amazon. Drawing conclusions from these relationships is difficult. Why are 72 percent of the art and 70 percent computer science books discounted, while only 21 percent of the philosophy and 20 percent of the political science titles are discounted? One might hypothesize that books with a broader appeal are discounted more frequently. This is true for bestsellers. Of the one hundred best-selling books listed on Amazon on October 5, 2004, ninety-one were discounted, but a correlation between the volume of sales and discount below the bestseller level is not evident. For example, the art book *Meret Oppenheim: From Breakfast in Fur and Back Again* (Kerber Verlag, 2004), a dual English/German book about the artist known for her surrealist, fur-covered cup, *Le Déjeuner en Fourrur*, lists at \$35 and sells on Amazon for \$23.80. Its Amazon sales

**Table 3.** Cost of orders from primary book vendor

Vendor	Cost for 3,517 orders	% discount from list	Per unit cost
Amazon	\$151,049.55	7.98	\$42.95
Primary vendor	\$138,588.39	15.57	\$39.41

**Table 4:** Items available at a discount from Amazon

Orders	Total available	No. discounted	% discounted
Sep.–Nov. 2003	3,266	1,442	44
Aug. 2004	1,378	716	52
Total	4,644	2,158	46

**Table 5:** Library purchases from Amazon, Jan.–Mar. 2004

# of titles	Jan.–March 2004		Sept. 2004	
	Price	% discount from list	Price	% discount from list
162	\$3,525.76	20%	\$3,929.88	11%

Note: 181 items purchased Jan.–Mar. 2004; 12 unavailable 9/2004; 7 had new list prices 9/2004.

rank is 1,268,441, which is considerably less popular than *Al Qaeda's Great Escape* (Brassey's, 2004) which is ranked at 61,461, but is sold at its list price of \$26.95.

A stronger relationship between publisher or type of publisher and the discount is apparent. All orders were grouped by publisher and assigned a category: academic, juvenile, media, trade, or university. For this study, academic publishers are those that produce and market for the academic and research community and include such publishers as Routledge, Wiley, Palgrave Macmillan, Sage, Ashgate, and Blackwell. Trade publishers produce books for the general public and include such publishers as Knopf, W. W. Norton, HarperCollins, Random House, and Viking. The other categories are self-explanatory. Analyzing only those publishers for which Belk library acquired three or more titles, one sees that trade, media, and juvenile publishers are discounted much more frequently than university or academic publishers (see table 7). University presses and academic publishers have a narrow and, to some extent, captive audience, and may not be as interested in increasing sales with Amazon at the cost of a deeper discount to their wholesale price. They also may be unable to offer discounts because of narrower margins due to the necessity of recovering initial costs on short print runs.

The bibliographic format of orders also was analyzed for correlation with Amazon discounting (table 8). All but 2 of 133 DVDs, mostly feature films and operas, were available from Amazon at a discount. Audiobooks on CD or audiocassette also were more likely to have a lower price. Scores, videocassettes, music compact discs, and CD-ROMs were significantly less likely to be discounted. The discounting on music CDs might reflect buying patterns at Appalachian State University, where classical, jazz, and bluegrass are emphasized.

**Table 6.** Discounted orders by subject

Subject	Total orders	No. available at discount	% available at discount
art	383	276	72
computer science	56	39	70
home economics	48	33	69
theater & dance	139	93	67
foreign languages	65	40	62
sport & recreation	120	73	61
biology	61	35	57
English	458	255	56
agriculture	37	19	51
chemistry	2	1	50
education	345	168	49
technology	152	74	49
business	106	48	45
religion	144	63	44
mathematics	17	7	41
history	540	222	41
music	232	94	41
communications	153	61	40
anthropology	49	19	39
general	60	21	35
economics	165	56	34
psychology	115	39	34
geology	27	9	33
statistics	3	1	33
physics & astronomy	37	12	32
sociology	266	81	30
health sciences	182	54	30
military science	17	5	29
geography & planning	70	20	29
criminal justice	86	21	24
philosophy	90	19	21
political science	94	19	20
TOTAL	4319	1977	46

**Table 7:** Discounted orders by publisher

Type of Publisher	Total orders	No. discounted	% discounted
Academic	1,159	205	18
University	678	250	37
Trade	658	560	85
Media	95	76	80
Juvenile	94	74	79
Totals	2,984	1165	43

**Table 8:** Discounted orders by format

Format	Total orders	# discounted	% discounted
Book	4389	1995	45
DVD	133	131	98
CD	82	16	20
Spoken recording	14	10	71
CD-ROM	10	3	30
Videocassette	9	2	22
Score	7	0	0
Totals	4644	2157	46

### Fulfillment and Speed

Between July 1, 2002, and September 30, 2004, the library placed and received 1,056 orders from Amazon for which it paid \$24,570.30. Average time between order and receipt was two weeks, compared to an average of three weeks for all vendors and four weeks for the library's primary book vendor. Amazon or the library cancelled 1.7 percent of the orders because they were unavailable. The library uses Amazon to try to fill orders cancelled by other vendors. When these reorders are not counted, the cancellation rate drops to 0.83 percent, which is more than the rate for the library's primary book vendor, (0.51 percent), but less than the rate for all other vendors (2.33 percent) and for all nonapproval orders, (1.08 percent) (see table 9).

### Summary

The Amazon database is very comprehensive. Almost all of the library's purchases that did not have to be ordered through a producer could have been purchased from Amazon. Also, Amazon allows other vendors to link their stock to Amazon records, which makes proceeding to an out-of-print copy, when a new copy is not available, convenient. Although known as a discount site, Amazon does not discount every item. If the library had placed all of its orders with Amazon, it would have spent 7.7 percent more for those orders. The amount of discount varies over time. Some items that were offered at a dis-

count in the past may later be offered at list. Other items may have a lesser discount. Books about art, computer science, home economics, and theater are significantly more likely to be offered at a discount. Trade books are more likely to be discounted than academic or university publishers. DVDs are more likely to be discounted than other formats. Amazon is faster than other library vendors and comparably reliable in filling orders.

### Conclusion

This small study attempts to answer the hypothetical question: "What if Belk Library bought everything from Amazon?" The results show that standard library vendors provide a good value for services offered and can compete with Amazon's prices. Amazon compares favorably to other suppliers in selection, availability, and fulfillment, and considerably better in speed. Libraries interested in using Amazon should find it useful for trade and popular press books, DVDs, and book and media items that need to be acquired quickly. In addition, Amazon's Marketplace service for used material from third-party vendors and individuals is convenient and competitive with other online sources for used books. If Amazon wants to win a larger share of the library market, they may consider discounting more items in their database, especially audio recordings and books from academic and university publishers. With the addition of library-specific services, such as physical processing or providing a mechanism for libraries to add covers, tables

of contents, and perhaps book content to library catalogs, Amazon has the potential to be a major library vendor.

In their February 2001 article, Nardini and Abbott suggested that Amazon might affect library book vendors the same way a new Wal-Mart on the edge of town drains the life out of the main street with overwhelming price competition.<sup>11</sup> Since July 1, 2002, when Belk Library first set up an account, Amazon has become its fifth largest supplier in sales and its third largest in volume. This was not in response to an administrative directive to use Amazon, but the result of acquisitions staff using a vendor they have found reliable. Worth noting is Amazon's significant sales growth at Appalachian State University without the expense of sending sales representatives, marketing to libraries, or renting booths at conferences. If Amazon continues to grow, perhaps the library vendor main street will get quieter.

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**Table 9:** Speed and fulfillment

Vendor	Average weeks between order and receipt	% received within 2 weeks	% received within 4 weeks	% cancelled
Amazon	2	71.31	85.70	1.70
Amazon w/o reorders*	2	73.78	88.19	0.83
Primary book vendor	4	24.35	77.47	0.51
All other vendors	3	51.02	78.08	2.33
All orders	3	34.09	78.04	1.08

\*Orders cancelled by another vendor as unavailable

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