

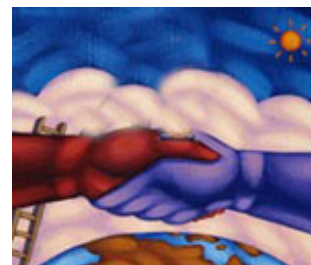


Marrying Marketing Science with the Front Lines: One Book Publisher's Winning Combination

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The rise of the Internet has been a boon to the National Academies Press, or NAP, the book-publishing arm of the National Academy of Sciences. But by the start of this decade, the promise of the web also posed some potential pitfalls.

In 2001, the leading scientists on the board of the Academy were suggesting that NAP executive director Barbara Kline Pope take advantage of new technologies to offer its books on the web in a downloadable PDF format -- free of charge. According to Pope, the scientists told her they wanted the ability to disseminate the scientific information as widely as possible, explaining "that we could give away PDFs for free and it would build knowledge around the world. They were also saying to me, 'Don't worry about your business model because people will still buy printed books.'"



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But Pope wasn't convinced. So in 2002 -- as befitting a leading scientific publisher -- she obtained outside funds for hard research, retained two academic marketing experts and called upon the tools of marketing science. The researchers developed a study showing that free online PDF-format books would have cannibalized existing print sales on the order of \$2 million a year -- a potentially crippling blow to the publishing house.

Pope and the two marketing experts -- P.K. Kannan from the University of Maryland and Sanjay Jain from Texas A&M -- presented their research at Wharton recently as an entry in the INFORMS Society on Marketing Science (ISMS) Practice Prize Competition, a contest designed to highlight the ways that advanced marketing science can improve the bottom line.

For their development of a strategy on how to price online PDF-format books in a way that would maximize both revenues and book sales, the NAP team was awarded first prize in the competition. The contest used to be a part of the yearly INFORMS convention, but it was held as a breakout event this year at a new Wharton conference called the Practice and Impact of Marketing Science 2007.

The 'Charm' of the Plan

Three finalists had been asked to present their competition entries to the Wharton conference in person. In addition to the NAP group, the conference heard from J.D. Power and Associates' Stephan Schroeder, Jie Du and Lili Xie, who spoke about Optimal Auction Vehicle Distribution System, or ODAV. Also presenting were P&G Asia-Pacific's V. Kumar, Jia Fan, Rohit Gulati and P. Venkat, whose topic was marketing-mix recommendations to manage value growth.

Altogether, some 20 teams entered the competition in which judges evaluated a combination of factors, including the implementation and impact of the marketing research, the originality and innovative use of technology, the difficulty of the problem, the transportability of the solution, and an intangible that event organizers called "the charm" of the marketing plan.

Two of the leading teams in the 2007 competition were tackling a common modern scenario, using the Internet and advanced computer technology to solve thorny marketing problems that center on an age-old issue: how to reach as many customers as possible at the highest attainable price.

In the case of the National Academies Press, located in Washington, D.C., early and successful use of the

Internet made developing a new business plan more challenging. This was partly because as web traffic increased, users grew more sophisticated. Pope and her staff needed to decide how much information would be free of charge and how much would be fee-based, and at what price. The same problems have been encountered by newspapers, magazines and other print-based businesses in the Internet age.

As early as 1994, NAP was on the web with a system that allowed visitors to view some 550,000 individual pages online for a small charge, either to gain a nugget of scientific information or to decide whether to order the entire book through "snail mail." That system drove hundreds of thousands of annual Internet visitors, but by 2001, according to Pope, the growth of broadband access and the upgraded PDF format for publishing pages online meant it was now possible for web browsers to download a whole book online.

"It is our responsibility to disseminate these books as far and wide as we can, with the conditions that we need to be completely self-sustaining, and we're non-profit," Pope noted, adding that many of the roughly 200 titles a year published by NAP deal with critical scientific issues facing the country, such as stem cell research and global climate change.

It was the importance of those topics that pressed some of the big-name scientists who sit on the board of the National Academy of Sciences to urge that the PDF files be offered for free over the Internet to ensure widespread availability of the research. But Pope said that more data was critical.

In her Wharton presentation, Pope showed a Berkeley Breathed "Opus" cartoon featuring "Way Wired" Willy -- who downloads *To Kill a Mockingbird* on his laptop in a matter of seconds -- and Opus, who sleeps at night surrounded by old-fashioned books. She knew that NAP had customers who strongly preferred one style or the other, but there was no hard information on how many buyers were in either camp, or how much to charge for PDFs that saved the distribution costs of a traditional book. "These were questions that all of us in the publishing industry were facing at that time," Pope said. "There was no published data. Everyone was guessing."

With the outside funding, NAP enlisted Kannan and Jain to develop research projects to gauge customer preferences for online PDFs versus printed books, and also to develop a pricing strategy for PDFs and for a so-called "bundle" in which shoppers could buy both PDFs and a hard copy in the same purchase.

The study -- which found that about 65% to 70% of visitors to the NAP site came to view only one page -- sought to divide online shoppers into actual buyers, with a printed book in their shopping cart, as opposed to those who were merely browsing books that had a PDF version available. Once separated by group, the shoppers were asked to fill out a survey and were offered a chance to buy the PDF version, initially at the same price as the printed book and later, at a reduced price.

The two researchers determined that profits for a \$23 book -- keeping the book price at the same level -- would be maximized by offering the PDF version for \$17.28 and a bundle of the two products for \$27.28, which would produce a profit margin per sale of \$8.93. They also learned that 46% of traditional book buyers would have taken the free PDF version, which would have produced the \$2 million annual shortfall.

Based on this research, the NAP adopted an initial online pricing policy in 2002 of charging 75% of the print price for the PDF product. The actual sales closely tracked predictions, although web sales rose by 14.4%, higher than what had been forecast. Overall sales rose by 10%.

Pope said that because of the success of the pricing model, NAP decided to offer free downloads for users in developing countries and free downloads of titles which were lagging in sales. As Internet downloading popularity has increased, the PDF pricing was raised last year to 85%, Pope said. "The fact that I am still employed and standing in front of you means that we have been financially self-sustaining," Pope noted. "We have taken out profits and invested in the web site." Page views have soared to 18 million a year. Pope has been sharing the NAP findings with other leading booksellers, including Amazon.com, at industry conferences.

Finding Synergies between Academics and Practitioners

Both the creation of the conference and its spotlighting of the Practice Prize competition were aimed at

addressing the same issue: a lack of communication and collaboration between real-world business executives and academics who are developing innovative marketing science that could solve real-world problems. "In the field of marketing, there is a growing divide between those on the front lines and the people who are developing new knowledge," says Wharton marketing professor [Peter Fader](#), a co-chairman of the conference. Many people in the business world, he adds, are put off by the sometimes complex equations that marketing scientists develop as tools, but in a quick-changing, Internet-driven workplace, that knowledge can be highly valuable -- as shown by the NAP case study.

According to Fader, while marketing practitioners are always welcome to attend academic conferences on marketing science, typically such events are dominated by professors. Thus, in designing the Practice and Impact of Marketing Science 2007 event, Wharton -- in conjunction with the INFORMS Society for Marketing Science -- worked from the beginning to achieve an even mix of executives and academics, to foster a dialogue between the two worlds.

Over three days, the conference also featured about a dozen workshops -- led by a combination of professors and executives -- on topics that ranged from social networks and the media to new product development and customer retention.

For many attendees, Fader says, the highlight of the marketing conference was simply the chance for marketing science experts and business practitioners to talk to each other. "You had people coming together in the room who were completely unaware of other people working on the same issue. You had that 'a-ha moment' when a researcher saw somebody who was working on their very problem for the last couple of years."

The Practice Prize competition was the centerpiece of the event. Indeed, Fader notes, the finalists -- by showing how businesses used marketing science to tackle real world business problems -- "epitomized the spirit of the conference."

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