# Securities analysts' reports new technology slow adoption, study warns

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The reluctance of securities analysts to recommend investment in veteran companies using new techniques to grapple with radical technological change may be harming these companies as they struggle to compete, according to a new study in the current issue of *Organization Science*, a journal of the Institute for Operations Research and the Management Sciences (INFORMS).

"Securities Analysts and Incumbent Response to Radical Technological Change: Evidence from Digital Photograph and Internet Telephony" is by Mary J. Benner of The Wharton School. The study appears in the current issue of *Organization Science* http://orgsci.journal.informs.org/.

The findings suggest that management teams contemplating bold innovation and the adoption of radical technological change may be held back by conservative investment firms that reward firms that stick to their knitting by extending existing technologies.

"This may be short-sighted," says Dr. Benner. "Existing companies may be rewarded in the short run with increased stock prices for focusing on strategies that extend the financial performance from the old technology, but they may pay later in the face of threatening technological substitutes."

The study examines already existing ("incumbent") companies that contemplated major technological changes in two industries: photography and telecommunications. In the first, the author studies the period of shift to digital technology away from film. In telephony, she looks at the advent of Voice over Internet Protocol (VoIP).

Dr. Benner finds evidence that analysts are more encouraging toward companies' strategies that extend existing technology than toward strategies that respond directly to the new technology.

"In these settings," she writes, "analysts largely ignore incumbents' strategies that directly incorporate the new technology for several years."

She found that —

1. analysts were markedly more attentive to companies' offerings that extended old technologies - film in photography and wireline technology in telecommunications - than to companies' attempts to develop new products to compete with emerging technologies.

2. at turning points in their recommendations about buying a company's securities, analysts still remained more enthusiastic about products that extended old technologies or created hybrids tied to the old technology.

## Photography

The author studied analysts' reports covering two publicly traded companies, Kodak and Polaroid, during the twelve-year period from 1990 to 2001, when Polaroid declared bankruptcy.

She studied analysts at five firms covering the photography industry: Morgan Stanley, Prudential, Smith Barney (later Salomon Smith Barney), Paine Webber, and Credit Suisse First Boston, reading and coding 814 securities analysts' reports comprising 8,166 pages.

Both Polaroid and Kodak introduced digital cameras to compete with the emerging market, as well as hybrid products that combined film and digital technology. Analysts preferred the latter.

Between 1990 and 1996, for example, analysts mentioned the Kodak hybrid Photo CD 38 times and the company's APS camera system, another hybrid, some 144 times but never mentioned the company's DCS 100, a new digital camera. The analysts were consistently positive to the hybrid products and critical of the digital cameras.

During this same period, in contrast, a LexisNexis search shows 493 articles and business stories focusing attention on Kodak's new digital products.

When upgrading Kodak ratings to "buy" or "strong buy," the analysts consistently cited the performance of film, not digital.

But, Dr. Benner writes, "the securities analysts' optimism toward the incumbents' film-based products was not generally associated with successful outcomes."

Only in the final year of study did analysts begin to acknowledge the importance of a technology that had already become established in the public eye.

## Telecommunications

The author studied analysts' reports covering the four "Baby Bells" - Verizon, Qwest, SBC Communications, and Bellsouth — from 2002, when Vonage debuted, to 2005, when SBC merged with AT&T.

She examined Morgan Stanley and Deutsche Bank, including 420 reports with 3,298 pages.

In these reports, analysts ignored new VoIP-related devices such as Qwest's OneFlex and SBC's U-verse and Verizon's VoiceWing, despite hundreds of articles in the press.

In contrast, the author found nearly 800 analysts' mentions of applications by telecommunications companies for long-distance lines in compliance with Section 271 of the Telecommunications Act of 1996.

"Again, as in the photography setting," she writes, "the general lack of reaction from analysts toward the incumbents' strategies to directly respond to VoIP technology is surprising."

Speculating on their motives, Dr. Benner suggests that the uncertainty associated with eras of technological ferment leads them to hold onto legacy approaches until companies' profits are directly affected. Or, she writes, the difficulty of establishing the value of new technological strategies may be too difficult within traditional models.

Nevertheless, the negative implications for managers are clear.

"Managers interested in adaptation and survival of their organizations must take steps to respond to new technology long before uncertainty about technological standards or new profit models is resolved," she writes. "The challenges may be even greater than suggested in prior research, however, as analysts (and the investors they influence) may continue to reward firms for strategies that focus on extending and preserving an old technology."

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