

Study finds companies may be wise to share cybersecurity efforts

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Research finds that when one company experiences a cybersecurity breach, other companies in the same field also become less attractive to investors. However, companies that are open about their cybersecurity risk management fare significantly better than peers that don't disclose their cybersecurity efforts.

"Previous studies have found evidence of this 'contagion effect' in the wake of cybersecurity breaches," says Robin Pennington, co-author of a paper on the work and an associate professor of accounting in North Carolina State University's Poole College of Management. "However, to our knowledge, ours is the first to test the issue experimentally. We not only confirmed the contagion effect, but found that there are clear steps companies can take to reduce its impact. Specifically, companies would be well advised to implement the voluntary reporting guidelines from the AICPA on disclosing cybersecurity efforts."

To explore issues pertaining to the contagion effect, researchers conducted a study with 120 nonprofessional investors. In the study, participants were given information about a fictional [company](#), which we'll call Company A. Some of the participants were also told briefly about Company A's cybersecurity risk management program. Participants were then asked to give an initial assessment of the attractiveness of investing in Company A, as well as the likelihood of purchasing stock in the company.

Study participants were then told that one of Company A's peers was the victim of a cybersecurity [breach](#). Participants were then asked to give a revised assessment of Company A's attractiveness and the likelihood of investing in it. Participants were then given a news release from Company A. Some participants received a version of the release that included a reference to Company A's cybersecurity risk management program. Study participants were then asked to give a final assessment of Company A's attractiveness and the likelihood of purchasing stock in it.

The researchers found that companies who disclosed cybersecurity risk management efforts both before and after a competitor's breach fared the best.

"While the company suffers some decline in attractiveness after the breach, on average it suffers the least if it discloses its cybersecurity risk management program, in a way that is similar to the AICPA's voluntary reporting guidelines," Pennington says.

The researchers also analyzed the study data to ascertain the impact of another effect, called the "competition effect," which has previously been associated with cybersecurity breaches in archival research. In this context, the competition effect is when investors see a cybersecurity breach at one company as an advantage for that company's competitors—making those competitors more attractive to investors.

"We did see evidence of the competition effect with some investors in our study, but on average the contagion effect overwhelmed the competition effect," Pennington says.

"Our study offers [experimental evidence](#) for both the contagion and competition effects, as well as their relative strengths," Pennington says. "But I think the takeaway here is that there are very real advantages to voluntarily disclosing cybersecurity risk management efforts, as the AICPA suggests. This is not a purely theoretical exercise—it can affect your company's appeal to investors."

The paper, "Do voluntary disclosures mitigate the [cybersecurity](#) breach [contagion effect](#)?" is published in the *Journal of Information Systems*.

More information: Andrea Seaton Kelton et al. Do voluntary disclosures mitigate the cybersecurity breach contagion effect?, *Journal of Information Systems* (2019). [DOI: 10.2308/isys-52628](https://doi.org/10.2308/isys-52628)

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