Theranos' Bad Blood

In 2003, Stanford University student Elizabeth Holmes founded the health care company Theranos. The goal of the company was to revolutionize health care. Beginning with the goal of creating a patch to deliver drugs, the company instead shifted focus to developing a simple and effective method for blood diagnosis. Holmes dropped out of Stanford and began raising millions of dollars in funding. The company claimed that its technology could offer over 240 tests from just a prick of the finger. Test results could be delivered to a patient's phone in hours, and a single test would cost less than half of the reimbursement rate of Medicare and Medicaid. Blood could be diagnosed easily without the need for many vials of blood drawn from patients' veins or expensive lab work.

By 2014, the company was valued at $9 billion, of which Holmes held a majority stake. Many investors backed the company based on the promise of the technology. Holmes received glowing profiles in news magazines, was featured on television shows, and presented keynote addresses at tech conferences. But the excitement of investors and the promise of the technology did not translate into success.

Operating largely in a cloak of secrecy, the company could never validate its claims about its blood sampling technology, and many of its lab results went unchecked. In 2015, journalist John Carreyrou investigated the company for an article in *The Wall Street Journal*. He disclosed problems in the company's equipment and testing methods. He found that the company did not even use its own technology in tests and often relied on older technology from other companies. Carreyrou also found that the company's own much-hyped blood sampling technology was not as accurate as Holmes and company had claimed. After publication of Carreyrou's article, others publicly came forward about the inaccuracy of results they had received from Theranos.

Holmes disagreed with the reporting, saying that Carreyrou had the story wrong. She stated, "This is what happens when you work to change things, and first they think you're crazy, then they fight you, and then, all of a sudden, you change the world." Holmes continued to push her company's claims and her own narrative of personal success. The company continued to show off its technology at conferences.

The Food and Drug Administration and the Centers for Medicare & Medicaid Services opened investigations into Theranos. Under scrutiny, the company faced lawsuits from investors, pharmaceutical partners, and the state of Arizona, where it provided blood-testing directly to consumers. In 2018, the

Securities and Exchange Commission (SEC) charged Theranos, Holmes, and former president Ramesh Balwani with massive fraud. According to a statement from the SEC, "Theranos, Holmes, and Balwani made numerous false and misleading statements in investor presentations, product demonstrations, and media articles by which they deceived investors into believing that its key product…could conduct comprehensive blood tests from finger drops of blood, revolutionizing the blood-testing industry."

In March 2018, Holmes reached a settlement with the SEC, without admitting or denying any wrongdoing. She agreed to pay a $500,000 penalty, return her 18.9 million shares, give up voting control of Theranos, and be prohibited from serving as director of a public company for 10 years. Jina Choi, director of the SEC's San Francisco Regional Office, stated, "The Theranos story is an important lesson for Silicon Valley… Innovators who seek to revolutionize and disrupt an industry must tell investors the truth about what their technology can do today, not just what they hope it might do someday."

In June 2018, Holmes and Balwani were indicted on charges of fraud by the United States attorney's office in San Francisco. Before criminal charges were filed, Holmes stepped down as CEO of Theranos. Holmes and Balwani both pleaded not guilty and await trial as of June 2018. Technology consultant Paul Saffo said in response to the indictment, "There is one cardinal rule in Silicon Valley that most people never realize, and this is never ever breathe your own exhaust." He continued, "[Holmes] is someone who is so deeply self-deluded by her optimism and faith in herself… And delusion is contagious."

Concept: Overconfidence Bias

Ethical Insight:

Elizabeth Holmes dropped out of Stanford University at the age of 19 to found the health care start-up Theranos. She promised it would revolutionize the health care industry. Investors got on board and fueled the company with millions of dollars. By 2014, Theranos was valued at $9 billion. Holmes became the darling of the business media. Unfortunately, she appears to have believed her own hype. Holmes showed overconfidence regarding the efficacy of her product that was not borne out by testing. She likely also suffered, as many people do, overconfidence in the ethicality of her own character, which was just as great a flaw. Secrecy and misreporting of test results caused the company's downfall. In 2018, Holmes was indicted on charges of fraud.

Discussion Questions:

1. How did Elizabeth Holmes and Theranos demonstrate overconfidence bias? What were the consequences of overconfidence bias for Holmes and Theranos?

2. Is it possible that someone who went to Stanford, who patterned her dress after genius Steve Jobs, and who was constantly praised as the young woman who was going to revolutionize health care in the United States might naturally suffer from the overconfidence bias? If so, how might it affect her judgments and actions?
3. Why do you think investors would back a product that had not been proven? Do you think investors—such as millionaires Rupert Mudoch, Betsy DeVos, and the Walton family—were also susceptible to overconfidence bias in their ability to pick and ride a winning start-up? Why or why not?
4. Behavioral economist Hersh Shefrin has suggested that Theranos investors' overconfidence caused them to let themselves be conned. Is that plausible to you? How might that have worked?
5. Often, the overconfidence bias is related to the overoptimism bias, an unrealistic expectation that things will turn out well. Sometimes, as Shefrin points out, people engage in wishful thinking. How might the overoptimism bias have factored into the rise and fall of Theranos?
6. What harms were caused by Theranos and Holmes making false and misleading statements? How can hype transform into overconfidence or overoptimism?
7. Why do you think Holmes would continue to push the same narrative of personal and company success when faced with increased scrutiny? Explain.
8. Can you think of an example of another company leader who demonstrated overconfidence bias? How did this leader's approach affect the company?

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