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Are Electronic Cigarettes a Public Good or Health Hazard?

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A new case study by John Quelch charts the growing popularity of electronic cigarettes and how tobacco companies and regulators are responding.

by Michael Blanding

When electronic cigarettes first appeared a little over a decade ago, they were hailed by many as a godsend: a tool to help smokers quit while mitigating the most harmful effects of tobacco. "The [e-cigarette] market is producing, at no cost to the taxpayer, an emerging triumph of public health," one health advocate said.

Consisting of a small barrel-shaped design that mimics an actual cigarette, the devices vaporize a liquid nicotine solution, which is then inhaled without the tar and carcinogens found in smoke. Powered by a battery and controlled with a microchip, users can adjust the amount of nicotine they inhale, gradually weaning themselves off their addiction if they choose.

"THE VALUE PROPOSITION OF E-CIGARETTES IS CLEAR"

"The value proposition of e-cigarettes is clear," says John A. Quelch, Charles Edward Wilson Professor of Business Administration at Harvard Business School. "They provide the dubious pleasure of nicotine without all the cancer-inducing toxins associated with tobacco."

Very quickly, however, enthusiasm faded, when some public health advocates began worrying that the cure was worse than the disease. And this week the Food and Drug Administration is proposing the first federal oversight of the product.

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The very fact users could control the amount of nicotine they ingested led to worry that e-cigarettes would cause smokers to take in more nicotine, rather than less. Even more worrisome, e-cigarettes could provide a gateway for young people to start smoking tobacco cigarettes, or even lure ex-smokers back to the habit.

This has created a dilemma for health regulators, says Quelch, interviewed before the FDA's action. Do they regulate e-cigarettes in order to decrease the number of new smokers who may pick up the habit, or do they apply a light hand in order to increase the number of existing smokers who will quit.

"Put crudely," says Quelch, "how many nicotine addicts is it worth the risk of creating to have one tobacco smoker quit?"



Electronic cigarettes are powered by a battery and microprocessor.
Photo: iStockPhoto

That is one of the many questions Quelch explores in the HBS case, *E-Cigarettes: Marketing Versus Public Health*, written with HBS Research Associate Margaret L. Rodriguez. It examines the consequences of the products as they have become more popular—and as the big tobacco companies have gotten in on the game. Quelch, who holds a joint appointment at HBS and Harvard School of Public Health, wrote the case for a new

course debuting next year called "Consumers, Corporations, and Public Health," which will enroll both MBA and MPH students to consider the intersections of business and health.

"One of the themes in the course is the tension that exists, quite understandably, between regulators and commercial interests," says Quelch. "Most people are used to hearing about that in the context of financial regulation, but similar issues apply in other sectors of the economy including health care."

In the case of electronic cigarettes, existing evidence indicates that they have led to a net decrease in smoking. Of the 43.8 million smokers in the United States in 2012, 3.5 million converted to e-cigarettes; during the same period only 1.3 million electronic cigarette smokers converted to tobacco. That means a net decrease of cigarette smokers of 2.2 million, or 5 percent.

At the same time, 2.8 million nonsmokers converted to electronic smokes. But even that doesn't tell the whole story, says Quelch, since it leaves out the number of smokers who would have taken up tobacco if e-cigarettes didn't exist, as well as the number of smokers who would have quit cold turkey without the availability of electronic products. "To really determine the public health impact of e-cigarettes requires a lot of sophisticated market research and analysis," says Quelch.

A SMOKING MARKET

Uncertainty over health data hasn't hurt the product's popularity. In 2013, electronic cigarettes tripled in sales in the US to approximately \$3 billion. (The overall tobacco retail market in the US is valued at around \$100

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billion.) Almost 10 percent of high school students have tried them, according to the Centers for Disease Control, and a growing percentage of middle school students are joining the list. In 2012, Goldman Sachs declared electronic cigarettes one of the top 10 disruptive technologies to watch.

Like most disruptive technologies, electronic cigarettes were developed by small entrepreneurs with brand names like Logic eCig (founded 2010), Blu (2009), and NJOY (2006). By 2013, according to the case study, the e-cigarette category featured more than 200 brands and their growth was threatening sales of tobacco products.

"If I am a tobacco manufacturer seeing my sales cannibalized by e-cigarettes, I have two choices: develop my own e-cigarette brand or buy an e-cigarette company," says Quelch.

Number three tobacco company Lorillard was the first to blink, buying up Blu in 2012 for \$135 million and aggressively pushing them at convenience store counters. "Distribution of Blu immediately increased by a factor of three," says Quelch. Other top manufacturers followed suit, acquiring their own brands and using their shelf-space clout to increase visibility of the alternative products.

CIGARETTE COMPANIES WILL MANAGE THE MARKETING OF E-CIGARETTE BRANDS TO MAXIMIZE PROFITABILITY FOR THEIR SHAREHOLDERS”

The growing sales of electronic cigarettes also caught the attention of regulators. The products had been completely unregulated—they could be advertised on TV and sold to buyers of any age on the Internet. But once the major tobacco brands began acquiring e-cigarette makers and displaying those products alongside their mainstay cigarettes, policymakers took particular notice.

Public health advocates and parents alike worried about the variety of flavors, including cotton candy, that might make "vapes" attractive to children. Some states and cities responded with restrictions on sales and advertising, and, in April, the Financial Times reported that the World Health Organization will call for e-cigarettes to be regulated just like tobacco cigarettes. The US Food and Drug Administration, under mounting pressure to act, offered its own regulatory plan on April 24.

Ironically, if regulation does go forward, it might help the major tobacco companies by limiting the marketing playbook of the competitors that were cannibalizing sales of their products.

The top tobacco competitors know how to deal with regulators, says Quelch, "but with all those entrepreneurs coming out with flavors and advertising, they would no longer be able to get traction in their business."

TOBACCO COMPANIES TAKE CONTROL

Quelch predicts the big three tobacco companies—Altria, R.J. Reynolds, and Lorillard—will gain control of the e-cigarette market and then undermarket their electronic products in order to retain market share for their more profitable tobacco cigarettes. "Cigarette companies will manage the marketing of e-cigarette brands to maximize profitability for their shareholders," says Quelch. "Meaning they'll be able to manipulate prices in order to control the speed with which tobacco users migrate to e-cigarette brands."

That means that electronic cigarettes, which are now significantly cheaper on a smoke-per-smoke basis than heavily taxed tobacco competitors, will probably start climbing in price and eventually become equal to tobacco brands. That could create an even bigger windfall for tobacco producers. Even if electronic cigs are regulated like regular cigarettes, they probably won't be taxed like regular cigarettes, since the tax is on tobacco, not nicotine (and doesn't apply, for example, to nicotine gum or nicotine patches)—and any new taxes are a nonstarter these days in Congress.

By pricing electronic and tobacco cigarettes to sell similarly at retail, the tobacco companies could reap enormous profits, concludes Quelch, at the same time giving them cover against criticism by allowing them to point to "healthier alternatives" in their product portfolios.

When entrepreneurs first created e-cigarettes and marketed them as a way to quit smoking, they probably didn't intend to eventually pad the bottom line of mainstream big tobacco companies. But playing out the scenario to the end, that is exactly what may happen—and all in the absence of any definitive data showing whether e-cigarettes are more or less harmful to public health than tobacco smokes.

By pointing out such dichotomies and unintended consequences, Quelch hopes he can motivate MBA students to think more deeply about the public health impacts of business decisions, as well as getting MPH students to think about the business forces that shape public health. Only then will decisions be made that properly balance the greatest good of the public with the ability for entrepreneurs to turn a profit. [LWK](#)

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