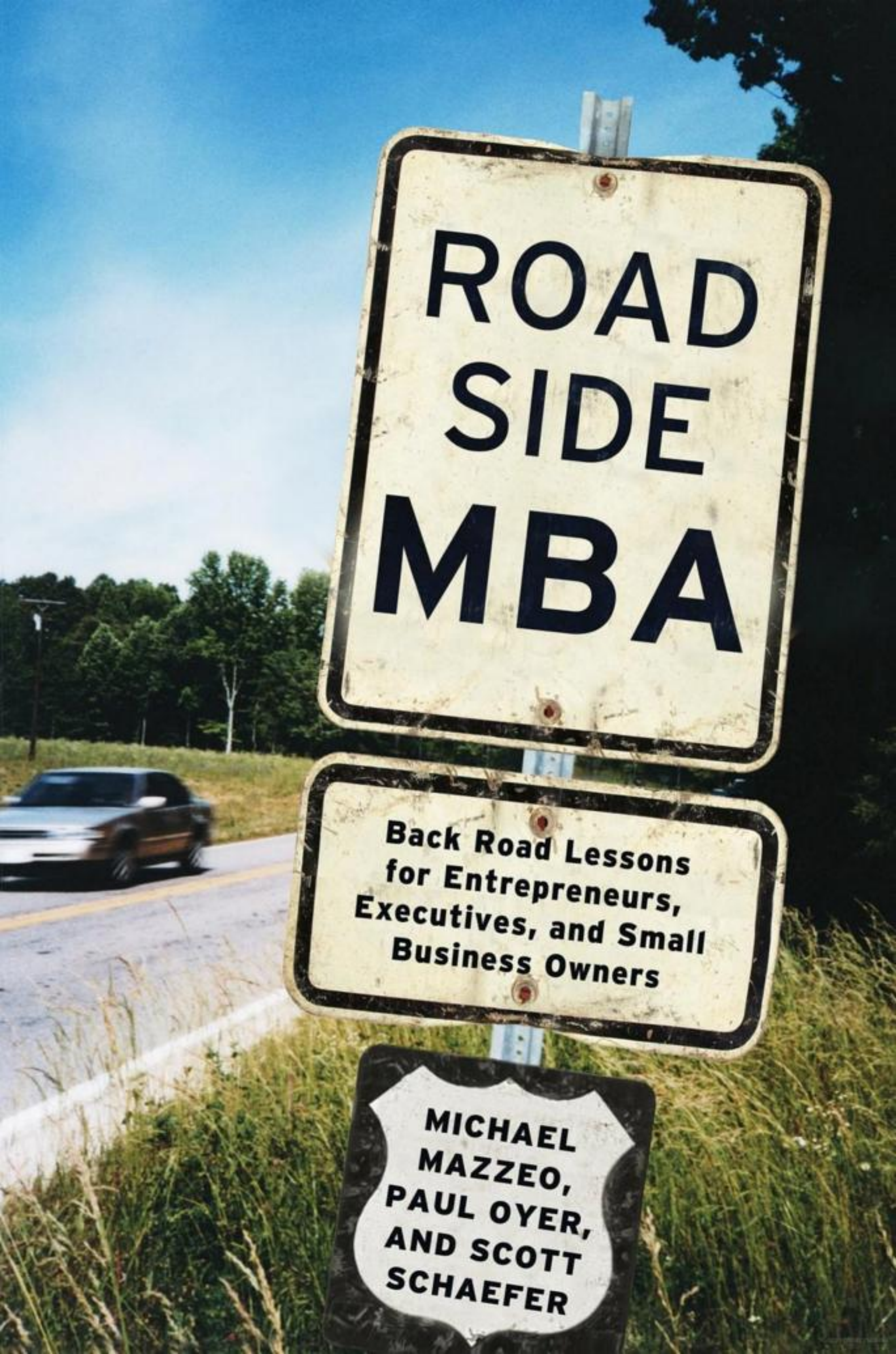
ROAD
SIDE
MBA
Back Road Lessons
for Entrepreneurs,
Executives, and Small
Business Owners
MICHAEL
MAZZEO,
PAUL OYER,
AND SCOTT
SCHAEFER

market? It is very likely that Charlie would respond to entry by doing nothing; that is, by continuing to produce the exact same amount of fire hose he would have produced without the entry. Even if he's losing money when factoring in his massive investment in looms, that investment is sunk. It's spent. It's water under the bridge. (OK, enough water metaphors…)

A company that has incurred sunk costs is fully committed to the market. It's all in, with no going back, no turning around, no alternative to sticking it out. And this level of commitment can be quite discouraging to entrants. An entrant looking at fire hose knows that, no matter how bad things might get for Charlie, he's always better off making fire hose with his looms than shutting them down. Sunk costs mean Charlie will be a tenacious competitor for any entrant, and this makes entry less attractive than it would be otherwise. Things would be quite different if looms could be redeployed outside the industry. Facing an aggressive and efficient new competitor, Charlie might well be tempted to sell looms to a buyer outside the fire hose industry if the machinery could be redeployed to make other textiles.

Investments in physical capital are but one potential source of sunk costs; Charlie's own *human capital*—that is, investments he's made to acquire knowledge and build relationships—is another. Mike asked just the question to illustrate: "How did you acquire customers when you first went out on your own?"

"Oh, I know everybody," Charlie replied. "An old customer called me up after I left my last company and said, 'What are you going to do?' I was forty-two years old and I had two kids in college so I said, 'I don't know what else to do. I gotta make fire hose.'" Charlie's unwillingness to consider careers outside the fire hose industry is another illustration of the sunk cost principle. His investment of twenty years in learning how to engineer, make, and sell fire hose was sunk. The industry is sufficiently specialized that there was no earning a return on that investment elsewhere, so he had little choice but to stay in and fight.

The key to building a barrier to entry in markets like this is to make sunk cost investments before competitors do. Sinking the costs turns you into a ferocious competitor, and it's this transformation that deters entry.

This race to invest first was being played out in a new market around the time we visited with Charlie. The use of hydraulic fracturing (fracking) to extract oil and gas was growing rapidly throughout the United States. Fracking requires a very large and extremely reliable hose, basically a larger-diameter version of what Key Fire Hose makes for fire departments. You might think that this represents a great business opportunity for Key, and Charlie thinks it does—in the short term. As this market grows, however, it will attract investment, and that investment in additional looms is again a sunk cost that will deter future investments. A race to invest in loom capacity is likely to ensue.

"That market is staggering," Charlie told us. "I'm just a little tiny pimple, but I'm very important because the whole thing doesn't work without my hose. Now, is it going to last? Nah. Markets that favor the seller don't last very long in a free enterprise system." Charlie's strong position in fire hose gives him a head start in the fracking hose business. But developing those same long-term advantages and barriers to competition in the fracking business are a challenge that could put Charlie and Key Fire Hose to the test.

Marietta, Georgia
PRODEW INC.

Leverage Scale to Hit an Unmatchable Price Point

A long drive left us at a Holiday Inn Express just off US 41 in suburban Atlanta. We were tired but also hungry, exactly the conditions that favor a catastrophic restaurant mistake. After dropping our bags, we met in the lobby, each of us scouring our phones for dining options.

"We're just across the Perimeter from Cumberland Mall. Food court, anyone?" Mike asked, sarcastically.

"Downtown Atlanta has lots of options, but that'd mean another half hour in the car," Scott said.

"I'm making an executive decision," Paul declared. "There's chain Italian just two blocks that way. How can you screw up pasta?"

Famous last words. In our travels, we have seen firsthand the many ways to botch, bungle, and bollix simple Italian food: grease (as we saw in Missouri), overcooking (Iowa), and even bizarre décor (Oregon). The culprit in Georgia was oversalting, which was so bad that Paul was up half the night just trying to stay hydrated. No doubt Mike's ancestors spent this particular evening spinning in their graves.

Groggy the next morning, we nevertheless made it to Prodew Inc., which is housed in a nondescript warehouse in Marietta. Things quickly turned for the better when we met the company's founders, Itamar Kleinberger and Shakeel Merchant. Not only did they offer us donuts in addition to coffee—Scott took two—they had also written out several pages of notes in preparation for our interview. Itamar, fiftyish with an Israeli accent, led us to a conference room, while Shakeel, tall and late thirties, followed behind.

"We manufacture the misting systems in supermarkets," Itamar began. "The spray on the vegetables and the thunder? I was involved with a previous company that made systems, and when my non-compete ended in 2001, Shakeel and I decided to join forces and start a company in the same area."

At the time, Itamar explained, four companies split the US market for misting systems, and dominated internationally as well. "We're now in all the major chains," he said proudly, "and some of them, like Kroger, use only us. Walmart, we probably have 70 percent of their stores."

"How did you enter against established players?" Scott asked between bites.

"We asked ourselves 'What are our advantages?'" Itamar said. "First, we're both engineers. The competition doesn't have engineers. They're using old technology. Second, supermarkets work on net profit of around 3 to 4 percent."

Shakeel added, "If you buy fifty-nine dollars in groceries, the supermarket makes about a dollar."

Itamar nodded. "If you come with a product that is as good as or better than what's in the industry with considerably lower cost, then you can get in."

"Third, Itamar was the main engineer at one of the four established players before he left," Shakeel said. "People in the industry knew him, and that really helped open doors. We weren't just guys coming in off the street."

Impressed, Mike asked "How did you get to the lower cost? Are your systems different?"

The pair explained that the competing products use an extruded rubber tube as the main mist track. An installer must cut tube to fit as part of the installation process, then holes must be drilled to screw in various nozzle heads. "We came up with a totally different concept. We decided to mold everything and do heat injection. Here's a twelve-inch piece, nine-inch," Itamar said, picking up samples from the conference table. "It's like a Lego, it all clicks together."

"Much cheaper to ship because of the weight," Shakeel added. "Easier to maintain. Will not break often. It's easier to install. We call it 'plug and spray.'"

"See here?" Itamar asked, holding up a sample of a competitor's product (he was exceedingly well prepared for our interview—with props even!). "Small hole for water to enter with extrusion. We have a big hole with molding. We run a hundred-foot system on one connection and still get even pressure distribution. The old system would need multiple connections, so it's much harder to install."

"And what was your pricing strategy to enter?" Paul asked.

"We needed to capture a very big share of the market," Itamar replied. "That was our first thought. It's only when we have quantity that we can afford the molds and the manufacturing and the production and everything. If a misting system used to be somewhere between two and three thousand dollars, we brought it down to below a thousand."

Smiling, Shakeel said "And *that* got everyone's attention."

Mike nodded, thinking back to the scale economics of injection molding at Steele Rubber in North Carolina. Like Steele, Prodew builds a custom mold for every part it hopes to sell, and this means that much of the cost of the business is up front. Unlike Steele, Prodew outsources the actual injection molding work. As Shakeel said, "We're not a plastics company."

Our discussion then turned to the response by the four existing competitors. "Do you have patents to protect this technology?" Mike wondered.

Itamar shook his head. "Patents cost a lot of money, very expensive to protect your ideas."

"Don't you worry that your competitors will hook up with manufacturing in Asia?" Paul asked.

Picking up a piece of Prodew plastic, Scott added, "You've handed them the blueprint right here."

Unconcerned, Itamar replied. "Here's the thing. To do any product in injection, you need to have the quantity. If they don't have big quantity, it doesn't justify it for them to make it. Shakeel and I, pretty much from the beginning, have been focused on acquiring a very big share of the market."

Prodew's strategy to prevent rivals from copying them is simple but ingenious. They realize that there is no legal or technological barrier to entry; they've not filed for a patent, and they're using off-the-shelf plastics technology. Rather, they've recognized that their injection molding approach is cost effective only at a very large scale. Recall that when economies of scale are present, average costs fall as quantity increases. A company at or above the minimum efficient scale (the quantity at which average costs are minimized) will always have a cost advantage over one that is below the minimum efficient scale; the smaller business will simply not have the scale necessary to get costs low enough to compete.

Prodew's strategy leverages exactly this insight. To erect a barrier to entry, they must find ways to keep rivals below the minimum efficient scale. And the best way to keep rivals underscaled? Simply grab up all the market share for yourself! Prodew could likely have made more money—in the short run—by pricing less aggressively and earning higher margins. This, however, would have left room in the market for a competitor to expand and possibly gain enough scale to become a credible competitor with a copycat injection-molded product. Instead, Prodew undercut rivals substantially on price to grab share and maintain their long-run advantage.

As Itamar put it, "We didn't want to be rich from one sale. We looked long term: Where are we going to be in five years? We did our pricing accordingly, with a target to have quantity."

By moving first with a lower-cost innovation, Prodew grabbed a lot of share and drove its costs down. Its competitors and other potential entrants could not justify going through the costs of developing a new, similar product without some assurance that they could grab a lot of that share back from Prodew. As a result, Prodew had erected a strong barrier to entry.

Pensacola, Florida
COLLEGEFROG

Don't Use Facebook, BE Facebook

Marooned far at the western edge of the Florida panhandle, Pensacola has experienced rapid growth in recent years. The metropolitan area now boasts almost half a million people, buoyed by a large naval base and a thriving tourist industry (at least between major oil spills). To reach our hotel, we drove past miles of strip-mall sprawl, much of which was built during a real estate boom of the 1990s and early 2000s. Hoping a larger city might have more extensive ethnic food options, we dodged the chains to try our luck with Vietnamese. After some quick smartphone research, we ended up in what must be the Southeast Asian part of town on North Davis Highway.

"I see Pho Golden Palace. Oh, and there's Tu-Do Vietnamese. Which one?" Mike said.

"An Asian meal in the deep South has been on my to-do list for a while," Paul joked. "I say we do Tu-Do."

This time, Paul's flip decision was a huge success, as Tu-Do served us a delicious, spicy dinner involving squid, mint, *bun* (which the menu helpfully describes as Vietnamese vermicelli), and a few bottles of imported beer. While dinner worked out well, exercise the next morning was a bit of a disaster. Mike had forgotten to pack athletic socks for his usual morning workout and turned up at the Hampton Inn gym in shorts and dress socks. Paul tried to talk him out of it: "Mike, you can't do it. People come to us for business advice. Who's going to take the advice of a guy who exercises in dress socks?"

"If you have concerns about wardrobe and credibility, I'd suggest you start with Mr. Lycra Bike Shorts," he said, putting on headphones to tune Paul out.

After breakfast, we drove to a local business incubator where we met with the leadership team of CollegeFrog, a tech start-up that is trying to transform college recruitment and hiring in the stodgy world of accounting. Jeff Phillips, James Hosman, and Frank White are partners and hold leadership roles at the company. Bright, clean-cut, and in their early thirties, the trio looked a lot like the ambitious young MBA students we work with on a regular basis.

We found this visit to be particularly enjoyable because it allowed us to make accountant jokes. Accountants are the only group who make economists seem exciting, so we have to take our shots when we can.

Jeff began the meeting by outlining the CollegeFrog business model. "It's a web-based application. Half of it is a jobs board; think Monster.com for college students and entry-level jobs. The other half is an applicant-tracking system that automates many of the steps of recruitment and eliminates waste."

"Ninety percent of the people hired each year in the accounting industry are straight from college," Frank continued, "and our goal is to streamline the recruiting process. Everybody knows the Big Four accounting firms; they are the absolute masters of college recruiting. But there are five or six thousand accounting firms in the country, and we want to take what the Big Four do and bring it to the next five thousand."

"We collect résumés from students and build a totally searchable database," James added. "Suppose a firm wants somebody who has Beta Alpha Psi experience, which is the accounting fraternity. They can search for that once they're a subscriber."

"Wait…" Paul said. "There's an accounting fraternity?"

"Imagine the parties," Mike quipped.

"It's an honor society," Scott corrected. "Think Phi Beta Kappa. I've been to a meeting of the Utah chapter."

"I bet the Utah chapter has even better parties. Did you wear a toga?" Paul asked.

"So many accounting jokes," Jeff said through a strained smile, obviously having heard all of them seven or eight thousand times.

If a college senior wants to get a job as an accountant, she (most new accountants are women) sends her résumé to the firms she knows. Colleges help with placement as well, often publishing a book of students' résumés and sending it out to local firms. On their end, accounting firms looking for employees typically visit a few local schools and do a day of on-campus recruiting. This process leaves much to be