JARGONALERT

Signaling

BY VANESSA SUMO

Hyundai cars were once known for being faulty and unreliable. They were the butt of American late-night talk-show jokes, with one suggesting that a good way to frighten astronauts was by placing the Hyundai logo on the spacecraft's control panel. But Hyundai has since regrouped, investing heavily in making much sturdier cars. And judging by the rave reviews, its efforts have been largely successful.

The Korean carmaker, however, had to fight hard to dispel its shoddy image. One way was to provide car buyers with a very generous 10-year or up to 100,000 miles warranty on its cars' engine and transmission, the first in the industry to do so. A warranty as bold as this effectively backs Hyundai's claims of a better car. Consumers understand that a warranty would be too costly to provide if the company knows that its product will frequently fall apart. Buyers typically cannot discern the quality of a car before purchasing it, so a warranty conveys a "signal" to the buyer that this car is truly as reliable as the company says it is.

Signaling is used in a large number of settings, where information about the strengths of a product or seller may be difficult to observe directly but rather communicated indirectly by using a signal. A company willing to pursue an expensive advertising campaign likewise tells consumers that it believes it has a quality product to offer buyers; otherwise it wouldn't spend the money getting that information out to the public. Prior to widespread labeling regulation, food makers who wanted to signal that their products were healthy often voluntarily placed the ingredients and nutritional values of their goods on packages. Even if many consumers were ill-equipped to make judgments about all of the information provided, the fact it was there demonstrated that the producers had nothing to hide to the health-conscious — in fact, quite the opposite. Signals are also used in corporate finance such as when a firm takes on debt to signal its confidence about future profits.

Without signals, buyers and sellers might have a frustrating time finding each other. Take the market for used cars: If a buyer can't tell the difference between good and bad quality, then the best he is willing to pay is somewhere in between. The problem is that the price is bound to be lower than what the seller of the good car is asking, but would undoubtedly make the seller of the bad car very happy, because the price is much higher than what his car is really worth. A possible result is that all good cars will be taken off the market, and the used car lot will be left with only the "lemons." (In economics, this is known as the problem of adverse selection.)

Signals are also pervasive in the job market, the example used by Stanford University economist Michael Spence, who won the Nobel Prize for his influential work on signaling. Spence supposes that there are two types of workers, one with a higher productivity than the other. Both are looking for a job, and a prospective employer or a firm would like to pay each type according to what he is worth. The problem is that the firm has no way of separating the highly productive types from the rest of the pack, and so like in the market for used cars, the firm will simply offer the average wage.

But the more productive fellow can do something to distinguish himself, for instance, by going to school. Acquiring education signals to a prospective employer that he is the more able worker and deserves a higher wage. But what would stop a less talented job candidate from also acquiring education, in the hopes of signaling that he is as good as the others? Spence notes that the cost of schooling must be much higher for the less productive worker for the signal to be believable. This might be true, for instance, if he takes a much longer time to finish an academic degree. He would then find it unprofitable to go to school just to convince the employer that he is more capable than he really is.

Taken to the extreme, the theory of signaling suggests that people acquire schooling because it is valuable as a signal, but it does not make them more productive. The truth is probably somewhere in the middle, that education is partly about acquiring skills and partly about trying to communicate one's ability to a job recruiter. But even some signaling, while beneficial for the individual and the firm, can be a waste of resources from a broader societal viewpoint. Indeed, if people had perfect information, then a car dealer who aims to convince that he is not some fly-by-night operator would not have to spend so much money on building that swanky showroom. **RF**

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