**Prediction Machines: The Simple Economics of Artificial Intelligence**

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by [Ajay Agrawal](https://www.amazon.com/s/ref=dp_byline_sr_book_1?ie=UTF8&text=Ajay+Agrawal&search-alias=books&field-author=Ajay+Agrawal&sort=relevancerank), [Joshua Gans](https://www.amazon.com/Joshua-Gans/e/B001JRUK80/ref=dp_byline_cont_book_2), [Avi Goldfarb](https://www.amazon.com/Avi-Goldfarb/e/B078WZFCKW/ref=dp_byline_cont_book_3)

Apple Books

The following is an excerpt from the book.

From Cheap to Strategy

The single most common question corporate executives ask us is: “How will AI affect our business strategy?” We use a thought experiment to answer that question. Most people are familiar with shopping at Amazon. As with most online retailers, you visit its website, shop for items, place them in your cart, pay for them, and then Amazon ships them to you. Right now, Amazon’s business model is shopping-then-shipping.

During the shopping process, Amazon’s AI offers suggestions of items that it predicts you will want to buy. The AI does a reasonable job. However, it is far from perfect. In our case, the AI accurately predicts what we want to buy about 5 percent of the time. We actually purchase about one of every twenty items it recommends. Considering the millions of items on offer, that’s not bad!

Imagine that the Amazon AI collects more information about us and uses that data to improve its predictions, an improvement akin to turning up the volume knob on a speaker dial. But rather than volume, it’s turning up the AI’s prediction accuracy.

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With that, you won’t need to go to other retailers, and the fact that the item is there may well nudge you to buy more. Amazon gains a higher share of wallet. Clearly, this is great for Amazon, but it is also great for you. Amazon ships before you shop, which, if all goes well, saves you the task of shopping entirely. Cranking up the prediction dial changes Amazon’s business model from shopping-then-shipping to shipping-then-shopping.”

Of course, shoppers would not want to deal with the hassle of returning all the items they don’t want. So, Amazon would invest in infrastructure for the product returns, perhaps a fleet of delivery-style trucks that do pickups once a week, conveniently collecting items that customers don’t want.8

If this is a better business model, then why hasn’t Amazon done it already? Because if implemented today, the cost of collecting and handling returned items would outweigh the increase in revenue from a greater share of wallet. For example, today we would return 95 percent of the items it ships to us. That is annoying for us and costly for Amazon. The prediction isn’t good enough for Amazon to adopt the new model.

We can imagine a scenario where Amazon adopts the new strategy even before the prediction accuracy is good enough to make it profitable because the company anticipates that at some point it will be profitable. By launching sooner, Amazon’s AI will get more data sooner and improve faster. Amazon realizes that the sooner it starts, the harder it will be for competitors to catch up. Better predictions will attract more shoppers, more shoppers will generate more data to train the AI, more data will lead to better predictions, and so on, creating a virtuous cycle. Adopting too early could be costly, but adopting too late could be fatal.9

Our point is not that Amazon will or should do this, although skeptical readers may be surprised to learn that Amazon obtained a US patent for “anticipatory shipping” in 2013.10 Instead, the salient insight is that turning the prediction dial has a significant impact on strategy. In this example, it shifts Amazon’s business model from shopping-then-shipping to shipping-then-shopping, generates the incentive to vertically integrate into operating a service for product returns (including a fleet of trucks), and accelerates the timing of investment. All this is due simply to turning up the dial on the prediction machine.