

Jaywalking Models

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This is an attempt at creating an intuitive exposition to illustrate domains where using no model is better than using some model.

I show that there are three distinct forms of risks inherent to models:

1. Risks within a model, given that the correct model exists
2. Risk of picking a wrong model, given that a correct model exists
3. Risk of picking a model when there is no correct model*

Tourists

Consider a tourist from London attempting to jaywalk across a busy street in New York. Since the British drive on the left and Americans on the right, she runs the risk of looking the wrong way first and being hit by a cab. If so, she would have picked the wrong model (“people drive on the left”), when in fact, the correct model exists and happens to be the opposite (“people drive on the right”). This is the second risk enumerated in the introduction.

Now consider a native New Yorker who picks the correct model and looks in the right direction before crossing, but gets hit because an errant cab was going the wrong way. This is the first form of risk enumerated in the introduction. It is a risk that emerges from within the model itself. Models are simplifications of reality, and necessarily depend on the validity of certain premises. If the premise turns out to be incorrect, the model fails. In these cases the premise was that law-enforcement would stop drivers going the wrong way.

Finally, consider a tourist on the streets of Bangkok or New Delhi. In the first two cases, the premise was that law-enforcement was reasonably effective. Here almost all premises fail. There is almost no guarantee that any premise, and therefore any model, will work at all. Even the distinction between sidewalks and asphalt falls apart as motorcycles regularly jump curbs and drive on the sidewalks in rush-hour traffic.

In such a scenario, the tourist is better off picking no model at all. She would be well advised to remember that “anything goes.” Her thinking is better spent on preparation, alertness, and staying light on her feet, than on building models or theorizing about how the traffic system in these countries work.

Domains

There are more and more domains that show properties where investing in preparation has a higher payoff when compared to investing in modeling or theorizing. These domains are resistant to models. They are resistant to simplification and no premise is safe.

This piece is about illustrating that these domains exist. This example of jaywalking tourists is a counter to the usual claim that “better models” would have done the trick. I will not go into the little techniques that can be used to identify these domains. I suggest Nassim Taleb’s “The Black Swan” for that. I’ll just list some that show this property.

The movie business, publishing, the tails of the stock market, and success in the arts are all domains that show this property. Any form of forecasting in complex environments such as software projects, environmental issues, and public health issues are also susceptible to the problem where picking a model has worse consequences than picking no model.

Once you identify these domains - plan for the worst, hope for the best.

Thanks for reading. Feedback and comments to navanit@gmail.com

* I define a model as a simplified characterization of reality. “No models” is not a model itself, since there is no attempt at simplification in that statement.