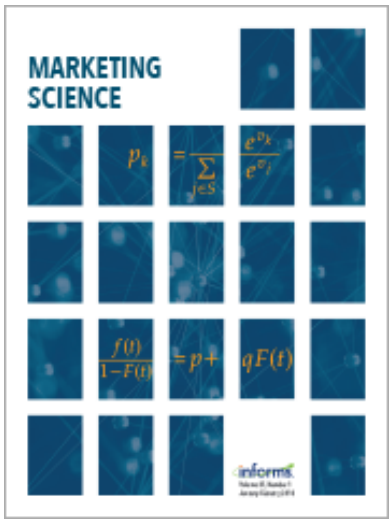

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Rejoinder

Think Theory Testing, Not Realism

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Eric Tsang's response makes the legitimate point that prediction and explanation can be different goals. However, his arguments also suffer from several errors in logic, most often the converse error. I do not claim that unrealistic assumptions breed good theories. I only claim that breakthrough theories usually have assumptions deemed unrealistic. Hence, unrealistic assumptions breed both good and bad theories. That is why science tests theories, not assumptions.

Moreover, one can easily prove that realistic assumptions are not required. Consider situations when one of two competing theories must be correct. For example, in criminal cases, the prosecution's theory is that the accused committed the crime. The defense's theory is that the accused is innocent. One theory is correct despite the fact that both could make obviously unrealistic assumptions. For example, the prosecution might unrealistically assume that unreliable eyewitness testimony is sufficient to convict. The defense might unrealistically assume that a dubious alibi is sufficient to acquit. Juries decide on all the evidence and not each assumption. I now answer some of Eric Tsang's questions.

Key words: models; mathematical models; realistic assumptions; instrumentalism; empirical research
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Here are the answers to Eric Tsang's questions (Tsang 2009) regarding Shugan (2007, 2009).

Can We Define Realism as the Extent to Which an Assumption Corresponds with the Real World?

Yes, but that's irrelevant. Realistic assumptions depend on context. It is *not* realistic to assume people act in their own best interest when formulating theories of dysfunctional behavior. The same assumption is usually realistic when formulating theories about market behavior.

Can We Test Assumptions as We Test Predictions?

Yes, but do not reject theories based on tests of assumptions. For example, do not reject the assumption that matter is composed of atoms because the assumption fails for plasmas. Do not reject the biological theory of cells because the assumptions fail for viruses. Do not abandon your clock because time depends on the observer's speed and location in a gravitational field.

Can the Same Prediction Be Generated by Completely Different Assumptions?

Yes, but different assumptions also generate conflicting implications. Test competing theories on the conflicting implications, not the common implications.

Can Unrealistic Assumptions Generate Dangerous Theories?

Yes, but so can realistic assumptions. For example, Aristotle's theory of five elements, Aristotle's theory of gravity, the emission theory of vision, caloric theory, humoralism, and many other theories all seemed realistic in their day, but were wrong and shown wrong by predictive testing.

It is dangerous to evaluate theories on arbitrary notions about the realism of assumptions rather than evaluating them based on the objective testing of predictions.

References

Tsang, E. W. K. 2009. Robust prediction and unrealistic assumptions. *Marketing Sci.* **28**(5) 999–1000.

Shugan, S. M. 2007. It's the findings, stupid, not the assumptions. *Marketing Sci.* **26**(4) 449–459.

Shugan, S. M. 2009. Relevancy is robust prediction, not alleged realism. *Marketing Sci.* **28**(5) 991–998.