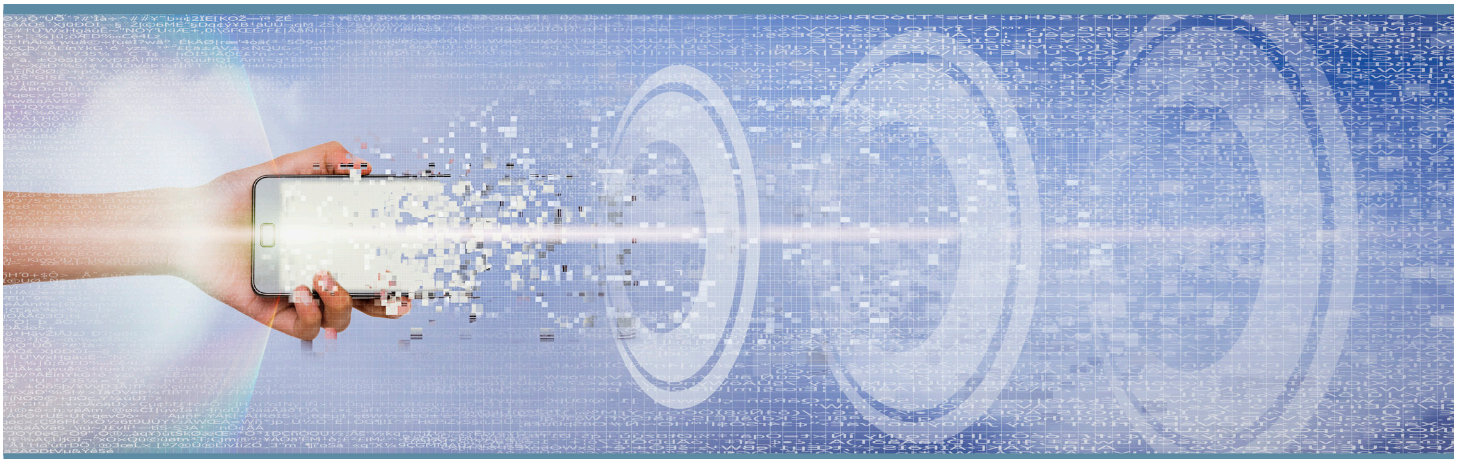

Executive Insights

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Victim or Messiah — Terminal Values and NPV, and What You Can Do About It

Kodak. Booksellers. Alarm clocks. The landline. These are all well-covered victims of the first wave of digital disruption.

Fast-forward a few years. The fourth industrial revolution is upon us. Unicorns are no longer mythical animals (although their valuations sometimes appear to be)! Business models that were the cornerstones of our economy over the past century — the taxi industry (vs. Uber), the TV industry (vs. OTT services like Netflix) and even the hotel industry (vs. Airbnb) — are already suddenly starting to look questionable within a very short period of time.

This, unfortunately, is before disruption driven by machine learning and artificial intelligence really hits us in full force, all enabled by Moore's Law on processing power and deep learning algorithms deployed at scale. Most proponents of machine learning are guiding toward a period of increase in the cognitive and responsive capabilities of machines, at a gradient that is unprecedented. (If you haven't seen it yet, watch Jeremy Howard's TED talk and listen for the specific reference to the pace of change toward the end.)

A number of businesses stand to have the shape of their markets radically altered in this new world — and to see this happen within a relatively short period of time. Here are just a few (the list is too long):

1. Car manufacturers, which are suddenly pivoting and relabeling themselves as "mobility providers" as deep learning enables driverless transportation (see Chris Urmson's TED talk to see an application of Jeremy Howard's car classification at work in Google's driverless cars)
2. Medical diagnostics and drug development businesses, as deep learning enables new diagnostic tools, drug developments and treatment paradigms (IBM's big focus on Watson is in the healthcare space)
3. Insurers, as the fundamental nature of insured risk and the quantum of claims evolves

And this is just the big picture. At the product and project level within companies, this trend is being rapidly replicated as well. The explosion of data and analytical techniques is enabling disruptive product design, customer segmentation and targeting, all at an incredible pace. Data, tools and techniques that were cutting edge less than six months ago are rapidly losing their distinctiveness. As an example, just when we thought mobile apps were the future, we're now being led to believe that chat bots will take over.

In this world, how should companies think about evaluating projects and products? How should equity investors think about valuing companies? What is an appropriate leverage level that debt providers should accept? Historically, this decision has largely been performed using the venerable cash flow-based tool most favored for valuation by MBA professors — the classic net present value (NPV) model. However, any developer of an NPV model will know that the bulk of the value (particularly in start-up J-curve ventures) often relies on the "terminal value," which in most cases is a perpetuity after five years of explicit cash flows.

Victim or Messiah - Terminal Values and NPV, and What You Can Do About It was written by **Ashish Khanna**.
Ashish is a partner in L.E.K. Consulting's Financial Services practice and is based in London.

For more information, please contact **financialservices@lek.com**