7 Deadly Sins of Innovation in the Age of AI

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Data Innovator, Best Selling Author, Delphix Founder and CEO

Another one of Elon Musk's brain children, OpenAI, recently released GPT-3, which some have warned is the beginning of the end. I'm on the waitlist.

GPT-3 is an artificial intelligence (AI) model that has ingested everything humans have written that is accessible on the Internet. You can ask it to code a website, and it will automatically generate the code.

Or you can ask it to write a haiku.

While that sounds far reaching, it's still far from general or super intelligence—a sentient being capable of independent thought.

So for now, we'll restrict the 7 Deadly Sins to technology reality and leave the doomsday scenarios to Hollywood and science fiction.

1. AI Lust

AI lust is the heedless use of AI technologies without regard for long-term consequences.

Facebook and Twitter have long used machine learning (ML), a form of AI, to determine what users see in their feeds. ML helped them scale engagement and growth to billions of users but also led to exploitation by foreign bots, which influenced the outcomes of elections around the world.

That was ages ago.

Today, there's a new class of AI technology called deepfakes, which poses an even greater threat to society.

Deepfake videos can make anybody say anything and look incredibly real. State Farm used the technology in commercials for the Michael Jordan documentary, *The Last Dance*. They doctored a 20-year-old ESPN clip so it looked like a prediction of the future, which simultaneously confused and delighted viewers around the world.

But imagine how deepfakes could be applied to tamper with elections and divide societies.

Or imagine how it could be used against *you*.

Deepfakes don't require a special effects crew or millions of dollars. The technology is completely democratized and open source.

While deepfakes are visible examples of AI Lust, there are microscopic or nearly invisible examples as well.

One example is the widespread use of ML models. To build an ML model, companies feed the model data, which often contains confidential or personally identifiable information (PII).

When you feed PII into ML algorithms, you end up baking PII into the ML models. When those models are stored in shared repositories like GitHub, all the developers with access to that repository now have access to that PII—sensitive data like names, home addresses, and credit card numbers.

Modern DataOps platforms, however, integrate data compliance and data delivery, eliminating the regulatory and privacy risk.

When it comes to AI lust, responsible innovation is the key.

2. Product Gluttony

Enterprises employ tens of thousands of developers releasing feature after feature for hundreds to thousands of apps. The result? Bloated, complex applications with too many features and poor usability.

AI exacerbates this issue as companies build in more complexity instead of prioritizing value and simplicity.

This is what gives rise to the opportunity for disruption by simpler, easier-to-use solutions, as Clayton Christensen described in The Innovator's Dilemma.

In the modern era, simplicity can be taken to incredible extremes.

Stripe is a financial services company that provides an online payments platform. They worked hard to ship the *smallest* product possible: just 7 lines of code.

Copying and pasting that code is all it takes for a business to add payments to its website or app. Stripe is now worth more than $20 billion—nearly $3 billion per line of product code.

It's not about how much software you ship. It's about how much leverage you can generate from your code.

3. Growth Greed

Pay-to-grow is a popular strategy in Silicon Valley. If you pay $2 to generate every $1 in revenue, it's pretty easy to scale to a billion in revenues.

Softbank's $100 billion Vision Fund has funded pay-to-grow companies for years. But overwatering can destroy a business.

Flush with cash, companies can invest in all kinds of features and programs (AI-related or otherwise) that really should not survive the chopping block, like the Postmates delivery robot.

Softbank invested over $18.5 billion in WeWork, which led to profligate spending, overly optimistic projections of market size, weak financials, and pending criminal and civil investigations.

Amidst the coronavirus pandemic, Softbank abandoned WeWork, which now faces potential bankruptcy.

On the surface, you might think Airbnb would be in similar straits. But the company continues to believe in blitzscaling, a term coined by board member Reid Hoffman to describe what you do when you want to scale really, really fast.

Unlike WeWork, Airbnb isn't on the hook for long-term, expensive lease agreements. And they don't own properties with expensive maintenance and tax bills like hotel chains.

They have a much lighter weight, more digital business model.

But that model still leaves Airbnb property owners holding the bag, a kind of modern-day externality—like digital factory exhaust.

The key to avoiding growth greed is to cultivate socially conscious, sustainable, and resilient growth, without leaving everyday people holding the bag.

4. Innovation Sloth

All companies like to think they are moving fast. But COVID-19 has turned on the lights.

Satya Nadella, Microsoft's CEO, said it best on a recent earnings call: "We saw two years of digital transformation in two months."

When push comes to shove, at least for a small set of development activities, companies can move really fast.

But how do we innovate faster at scale?

One of the biggest challenges companies face is legacy architecture and systems.

In California, it's popular to build multi-generational homes, where grandparents, parents, and kids can all live in one, unhappy home. That's the same for enterprise apps.

Companies love to build new apps on modern platforms but never seem to fully get rid of the past. This is why it's so critical for companies to have a comprehensive data platform that can span cloud-native services to Oracle databases and mainframes to accelerate development and mine the value of data with ML.

Another cause for tardy innovation is the "half investment."

Most companies are on the move from waterfall development to agile and CI/CD (continuous integration / continuous deployment), driven by the need for faster releases.

But as companies try to increase the number of releases per year, they often fail to invest in a proportionate number of ready testbeds to support those releases.

The results? Slow or low quality releases.

The problem only gets worse with CI/CD, where companies need to support hundreds to thousands of pipeline runs a month. At those rates, you can no longer afford the number of testbeds to support release volumes.

You have to get faster at turning around testbeds with fresh, compliant data.

This is why legacy test data management solutions are dying. They simply can't keep pace.

It's also why API-driven data platforms with integrated data compliance are growing fast.

The solution to fast innovation at scale? A comprehensive strategy to support fast releases and automated data operations that spans mainframes, Oracle databases, enterprise resource planning (ERP) implementations, and cloud native platforms.

5. Social Media Wrath

People like to be right.

That's why we have a tendency to focus on facts that confirm our existing beliefs—a cognitive weakness known as confirmation bias.

People also like to get mad.

Social media posts that spark anger and outrage speak to the most primitive part of our brain, the limbic system and amygdala, our so-called lizard brain.

When AI algorithms promote these posts, they hijack our lizard brains to drive virality and engagement—all so Facebook can sell more ads.

This is what creates the filter bubble effect.

We see items that confirm our beliefs and spark our outrage. On the other side of the aisle they see a separate, filtered stream of what they believe that sparks their outrage.

And the world becomes increasingly divided and polarized.

One of the great ironies of the modern world is the use of AI and advanced technologies to target and exploit the most primitive parts of our animal brains.

But these divisive posts are born from real world issues. And by raising issues like Black Lives Matter to the forefront of society, they can actually result in incremental, meaningful change.

The answer to social wrath is using technology to drive societal progress. To stop profiteering on anger.

The next time you get angry at a social media post, take a moment to disengage your amygdala before you comment or share.

Don't let social media platforms exploit your lizard brain for profit.

6. Cloud Envy

If you read 10Ks or talk to CXOs, you invariably find cloud being mentioned as a top priority for digital transformation.

But cloud itself is not a digital transformation strategy.

Cloud is just a vendor storefront. If we're all buying cloud services from the same vendors, there's no differentiation gained at all.

What does a real cloud strategy look like?

Several years before the rise of the cloud, Jeff Bezos sent an email (later leaked by an Amazon employee) that said all teams must expose their data and functionality through services interfaces. These interfaces had to be made so they could be externalizable to future third parties.

Bezos applied a technology architecture—services oriented architecture (SOA)—to the organizational culture of Amazon.

That technology and cultural alchemy is what eventually gave rise to Amazon Web Services (AWS).

Now, that's a cloud strategy.

When you're looking at your own cloud strategy, ask the next questions. What can you build in the cloud that you couldn't build before? How can you better leverage data as a strategic asset with modern AI technologies?

7. Legacy Pride

There's a lot to be proud of as an industry leader. It takes a lot to build a business, beat the competition, and scale to a dominant market position.

As an industry leader, it's easy to be proud of your internal programs. You're beating Wall Street's whisper numbers, so you must be doing something right.

Many executives at industry-leading companies are proud of or even complacent with their AI programs. They've deployed robotic process automation (RPA) to automate tens of millions of dollars of manual processes, which is great, except when you compare it to the scale of their billions in revenue.

You can't save your way to winning the future of your industry.

The solution to legacy pride is to look beyond surface success. To dig deeper into the art of the possible.

And ask a simple question—will your top transformation program win the future of your industry?

In summary, these 7 deadly sins can have a major impact on your career, your company, and even your county.

If we use technology responsibly, we can build innovation that betters humanity and inspires future generations. If we don't, we risk creating a technical hell on earth.

About the Author

Jedidiah Yueh started his career as a high school teacher. He is the bestselling author of *Disrupt or Die*, a book that refutes conventional ideas on innovation with proven frameworks from Silicon Valley. Prior to his book, Jed put his frameworks to the test, leading two waves of disruption in data management, first as founding CEO of Avamar (sold to EMC in 2006 for $165M). Avamar pioneered data de-duplication and generated over $4B in cumulative sales. After Avamar, Jed founded Delphix, which provides a data platform to enable digital transformation for over 30% of the Global 100 and has surpassed $100 million in ARR. In 2013, the San Francisco Business Times named Jed CEO of the Year. Jed has over 30 patents in data management and graduated Phi Beta Kappa, magna cum laude with a degree in English and psychology from Harvard.