



THE PROBLEM WITH DIGITAL: ZEBRAS, HORSES AND UNICORNS

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Zebras and horses

Recently, a group of faculty was part of a delegation from IMD to visit a number of digital start-ups in Israel, a country at the center of high technology innovation. One of them was called Zebra Medical Vision, a company that develops technology for reading medical scans. When we asked about the rather unusual name, we were told that it is a play on the saying, “When you hear hoofbeats, think of horses not zebras.” That is, don’t overlook obvious possibilities in the search for complicated solutions.

This aphorism highlights a key challenge with today’s digital technologies, like AI, blockchain, and virtual reality. Most of the time, they are zebras. Sure, you can retrofit AI into a solution, but, in many cases, there is a simpler, cheaper option that is at least equally effective.

AI seeks to use advanced statistical models to simulate the intelligence of humans. Yet, the actual percentage of use cases where AI is significantly better than simple data science, or even human intervention, is quite low. As one of our interviewees, ex-Intel Israel head Mooly Eden, commented, “Machine learning is less than 10% of data science, and it’s the bad 10%.”

Do we really need AI to solve intractable human problems? In many cases good old data science can be substituted for AI, just as relational databases can replace blockchains, and phone screens can substitute for virtual reality. They are not sexy at all, but they have radically changed the way we live and work, and they continue to function well. One start-up we visited, Gong.io., developed a system to record, analyze, and derive insights from phone conversations. The key insights about effective selling, for instance ‘before/after stories work better than ROI promises’ and ‘it’s better to respond to objections with questions rather than answers’ did not come from advanced digital technology but from old-fashioned 2D visualization and basic statistics[1]. Horses provided more value than zebras.

Ironically, Zebra Medical Vision is an example of a case where AI can, in fact, make a tangible difference. Reading medical scans is an optimal use case for AI as it can read many more scans than a human in the same time period with at least as high a degree of accuracy. It is also less prone to biases and missed diagnoses, such as noticing a bone fracture when looking for cancer. Yet, beyond this fairly specific case, the potential of AI systems to replace doctors is not very high. As Moshe Benbasat, founder of ClickSoftware, pointed out, data models for specific conditions lack broader knowledge to make accurate diagnoses[2].

We are often seduced by the ability of narrow spectrum digital technologies such as AI and blockchain to do very specific things very well. Our brains then naturally seek to imagine other potential use cases where we might utilize the technology to make a disruptive impact. In the process, we overlook the fact that existing broad-spectrum technologies already do the job as well or better. We effectively try to push a star-shaped peg into a round hole, when we already have a perfectly useable round peg!

We are not suggesting that we should stop advancing technology. We are pointing out that we should be focused on identifying problems, both obvious and latent, and finding solutions to these in a way that is technology agnostic.

Zebras and unicorns

Zebras are rarer than horses, but unicorns are rarer still! Yet, worldwide, there are now more than 450 of them - tech startups worth a billion dollars or more. The problem is that many unicorns today are also zebras - they provide elegant, digital technology fuelled innovations when much simpler and cheaper solutions already exist. Do we really need advanced AI solutions to optimize my toaster or fix my spelling?

A now infamous example is WeWork, which is still a unicorn despite its fall from grace. WeWork managed to sprinkle digital pixie dust onto a fundamentally non-digital business model – rent arbitrage. It is not that WeWork didn't have good ideas. It did. The problem was that it tried to over-sell its digital pedigree. Investors saw through it and balked at the IPO asking price.

Of course, unicorns aren't actually rare, they don't exist. This is also true for a lot of AI. When we hear a company talk about AI, we are no longer sure if they are talking about deep neural networks, or merely a computer program someone wrote. These days, it's hard to separate myth from reality.

Israel is the perfect economy to produce new digital innovations. It is entrepreneurial, dynamic, and risk seeking. There is hardly any stigma around failure and little respect for authority or convention. Plus, given the country's size and geo-political position, it is free to focus less on the thorny process of scaling up new ideas than on creating them. The advantage of this position is that it doesn't need to worry about horses, zebras, or unicorns. It just needs to create the hoofbeats, and let others worry about the source.

This article is part of a new series on digital innovation in Israel.

[1] <https://www.gong.io/blog/best-data-backed-sales-tips-of-2019/>

[2] <https://arxiv.org/ftp/arxiv/papers/1909/1909.03470.pdf>