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Does Elon Musk Have a Strategy?

A look across Tesla, the Boring Company, SpaceX, and his other companies reveals a consistent vision, organization, and ability to mobilize resources.

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Summary.

Does Elon Musk have a strategy? Or is he just out there winging it? Looking at Musk's many companies, common themes stand out across three areas: what fits into his *vision* for problems to solve, how he designs an *organization* as a solution to those problems, and why he can so effectively mobilize *resources* towards those solutions. Musk seeks problems that require navigating scale and overcoming complexity. Organizationally, he favors vertical integration and closed systems. To finance his projects, he's able to marshal tremendous resources because he has large personal stakes in his companies and is able to stir public and investor emotions, even if the logic of how a given business will succeed may not be clear.

During Elon Musk's dramatic, sometimes pugnacious, occasionally baffling campaign to acquire Twitter, we heard many of the same questions from both his followers and his critics. Why did he want to buy the company in the first place, and what was he planning to do with it? Will he make a lot of money or will he lose all of it? Many questions simply boiled down to: "What is he thinking?!" Or, put another way, is Musk out there just winging this, or does he have a strategy? And if so, what is the Musk strategy?

We can all learn a lot — both good and bad — from Musk’s other businesses: Tesla, SpaceX, Hyperloop, OpenAI, The Boring Company, and NeuraLink. Based on our research and teaching on strategy for innovation, technology, and growth, we see (some) method to the madness. Musk’s strategy can be characterized by common themes across three areas: what fits into his *vision* for problems to solve, how he designs an *organization* as a solution to those problems, and why he can so effectively mobilize *resources* towards those solutions.

In understanding the strategy across his many businesses — and the significant risks of that strategy — executives can apply those lessons to launching and growing their own groundbreaking businesses. Investors can also use these ideas to make more thoughtful decisions when providing resources to entrepreneurs in nascent markets, such as Web3 and the metaverse. Finally, this framework gives us a lens to think about the attempt to acquire Twitter — which Musk is now trying to walk away from — in the context of Musk’s broader strategy.

Vision

The most effective strategies often have a common trait: they build from a bold and clear vision of the future that gives the business a purpose today. In 1980, Bill Gates famously articulated a bold, clear vision for “a computer on every desk and in every home.” Each Musk-affiliated company has its own sense of that boldness and clarity: Tesla’s is to, “to accelerate the world’s transition to sustainable energy” and SpaceX’s is to, “make humanity interplanetary.” But to really understand Musk, we need to have a sense for the overall Musk vision that spans his many businesses as a whole.

Problems, Not Solutions

While we conventionally think of a vision as being in pursuit of a specific type of *solution*, Musk seems to take a different approach: he pursues a specific type of *problem*. Specifically, he seems drawn to problems that involve navigating scale and overcoming complexity.

First, navigating scale means he selects problems that can only be solved through the commitment of massive fixed-cost investments. Consider Tesla’s behemoth “gigafactories.” The idea behind these factories is that mass producing electric vehicles at costs that make them viable for a broad commercial market requires massive scale. Giga Texas, the fifth Tesla Gigafactory, is the largest factory in the world by floor area.

Second, overcoming a great deal of complexity — resolving dealing with multiple interdependent moving parts — requires the commitment of time and stamina for failure.

Building reusable rockets, like Musk is focused on at SpaceX, is incredibly hard. For a rocket to be reusable, it must be able to slow from nearly 3,000 mph to a safe landing speed and nail a bullseye landing.

These types of problems have a clear potential for a sustainable competitive advantage — if you can solve the problem. A long stream of research by our colleagues and others suggests that a commitment to reaching critical scale and overcoming complexity can serve as sustainable sources of competitive advantage. But solving these problems is not for the faint of heart: it requires taking “big bets,” as our colleague David Yoffie documents in his extensive research about Elon Musk.

Problems as the Solution

A vision dedicated to these high-scale and high-complexity problems provides several advantages.

Predictable road to performance.

Even though solving high-scale problems is hard, performance and unit costs can predictably decrease as you increase production volume and build units over time — combined effects that are known as the “experience curve.” (Moore’s Law, which states that computing power can double every two years, might be the best-known example of an experience curve.)

It’s clear that Musk relies — at least implicitly — on the presumption that the experience curve will deliver. Musk wants to cut battery costs in half by massively ramping up battery manufacturing capacity himself, relying on technological economies of scale from improved production methods.

Motivation for the long drive.

Pursuing solutions to big problems can be motivating for an organization, pushing employees to achieve wildly ambitious results. Still, there’s a reason most people find them prohibitively intimidating. They seem so hard that it is not even worth starting or trying.

Musk is uniquely willing to go after these, and employees at his companies are well aware that they are trying to achieve seemingly impossible stretch goals. Musk famously asked Steve Davis, a SpaceX engineer, to build a part for the Falcon 1 rocket, which Davis estimated would cost \$120,000, for \$5,000. Davis eventually delivered the part for \$3,900. Yet Musk maintains he makes achievable asks. “I certainly don’t try to set impossible goals. I think impossible goals are demotivating,” he’s said.

Problems as the Problem

A vision grounded on the tackling high-scale high-complexity problems brings about its own problems. Here, we'll focus on just two.

Bumps in the road.

Most people are pretty bad at making accurate predictions. Humans extrapolate linearly, but complexity increases much faster than that. The result — as Wu's research with HBS doctoral student Aticus Peterson shows — is that entrepreneurs consistently struggle to set realistic timelines, particularly on complex projects.

Musk, by his own admission, is no exception. Starlink, a satellite internet company operated by SpaceX, is still far short of Musk's 2015 predictions for where the company will be a decade later. As of March 2022, Starlink had just 0.625% of its subscriber and 1% of its revenue goal for 2025. So far, the markets have given Musk an exceptional amount of leeway to survive being consistently inconsistent, but this kind of missed projections would spell doom for most managers.

Running out of fuel.

The downside of pursuing a grand problem is that the road to a solution is long and the setbacks along the way are many. Burnout and disillusionment are real risks. A former production manager at Tesla said working 70 hours a week was not unusual and that getting fired from Tesla was the best thing that had happened to his marriage. According to Ashlee Vance, Musk's biographer, a hiring manager would tell new SpaceX recruits, "If you want as hard as it gets, then great. If not, then you shouldn't come here."

Ultimately, the open question is whether Musk's organizations can sustain these types of working conditions over the many more years needed to reach the promised land.

Organization

Everything, By Yourself

The most identifiable and consistent characteristic of the Musk strategy is how he organizes his businesses. Specifically, he engages in a strategy of *vertical integration* and *closed technology*.

Vertical integration.

A firm that is vertically integrated directly owns and operates the various stages of a business value chain. SpaceX manufactures about 70% of their Falcon 9 rocket in house. In comparison, United Launch Alliance, which launches NASA spacecraft, only provides system integration and launch operations, relying on 1,200 subcontractors for all other operations. Tesla has an ambition to backwards integrate into lithium mining. In contrast, traditional automotive OEMs rely on third parties in the marketplace to supply critical components.

Closed technology.

A firm that has a *closed* technology strategy builds proprietary technology that is not interoperable with other firms. SpaceX's Starlink satellites use a highly proprietary technology that makes them effectively inoperable with other satellite dishes. Tesla's charging network in the U.S. is not interoperable with vehicles from other manufacturers. In contrast, an open strategy seeks to set a standard for the ecosystem by being interoperable with other firms. Nearly all the largest technology companies in the world rely on a more open strategy than Musk. For example, Google is working with HP, Acer, and Intel to launch fast pairing support between an Android phone and a Windows PC. The advantage of the open strategy is the potential for value-creating network effects that can lead to increasing returns and a winner-take-all-market.

Total Control

These organizational choices have specific advantages that we can learn from.

Launching a new ecosystem.

Bringing a new technology to market presents a chicken-or-egg problem: the product needs a supply of complementary offerings, but the suppliers and complementors don't exist yet, and no entrepreneur wants to throw their lot in with a technology that isn't on the market yet.

There are two ways of "solving" this problem. First, you can *time the market* and wait until the ecosystem matures — though you risk waiting a long time. Second, you can *drive the market*, or supply all the necessary inputs and complements yourself. Consider the early days of electrification: it's hard to sell power turbines if there are no light bulbs and electric washing machines. Thus, in the early twentieth-century, General Electric offered both generators and the products to use electricity.

With Tesla, Musk chose to drive the market (no pun intended) by supplying both the electric vehicles and charging stations that the vehicles depend on.

Capturing more value.

By controlling the whole ecosystem, firms can capture excess value. Apple, for instance, can make extra profits by making its own proprietary charging cable, whereas companies that use the open USB standard cannot. Moreover, someone with several lightning cables in the drawer might find it convenient to keep buying Apple devices. Much like Apple, the proprietary charging adapters used by Tesla vehicles and charging stations (in the national network and at home) enable value capture down the road. Someone who has already installed a Tesla charging station at home might find it more convenient to stick with a Tesla vehicle on their next purchase.

The Risk of Going Solo

While we can justify Musk's strategy of doing everything in the short term, in the long term, this strategy sets him up for serious risks.

Missing out on the benefits of the market.

By doing everything yourself, you run the risk of not being able to leverage the market when third parties eventually emerge that can offer inputs and complements at a better price or pioneer new innovations. While GE's broad offerings made sense in the early days, laundry machines and windmills don't need to be under the same roof anymore.

Intel suffers from this problem today. For decades, Intel maintained a vertically integrated strategy of doing both the designing and manufacturing of its processors. This strategy puts it in a bind today: when its manufacturing technology fell behind manufacturing-specialist TSMC, Intel's chip designers were both technically and organizationally limited because they're stuck with Intel's in-house manufacturing capabilities.

Musk could run into similar issues. Should a new battery breakthrough come from outside the company, Tesla could incur significant unnecessary long-term costs because it would be stuck "buying" its own batteries.

Impairing network effects in the ecosystem.

Technology firms face a fundamental trade-off between value creation in the long-term and value capture in the short term: choosing a proprietary approach inherently limits how third parties can contribute to the ecosystem. For instance, The Boring Company's planned 12-foot-wide tunnels are 5 feet narrower than the standard width used for city metros, and thus incompatible with existing trains. If the company's own transit system works, it will lock in reliance on its tech. If it doesn't, there's no alternative use for the tunnels or machines, and no outside assistance available.

Resources

The only way to pursue high-scale, high-complexity problems with vertically integrated and closed organizational design is to have access to massive amounts of patient capital. And wow, does Musk have access to capital. Across eight of his companies, he has raised over \$34 billion dollars. Neuralink alone has raised more than triple the amount of capital raised by Amazon.

This relationship between Musk and his investors is the core factor that enables his strategy. It's also the hardest to replicate. Most Wall Street analysts struggle to rationalize how it works, and most CEOs watch as markets cut Musk slack they could never get themselves.

How does he do it? To understand Musk's mastery of persuasion — and where the persuasion fails — we turn to Aristotle. Aristotle laid out three modes of persuasion: *ethos*, *pathos*, and *logos*.

Ethos.

Ethos is an appeal to the authority or honesty of the speaker. "He's got \$13 million in." That's what employees of Musk's second startup, X.com (eventually PayPal), would tell recruits. He had invested most of the wealth he had made in the sale of his first company, and Musk has consistently had a lot at stake in his companies. His initial investment into SpaceX was \$100 million of the \$175.8 million earned from the sale of PayPal. He would continue to invest his entire personal wealth into SpaceX and Tesla until 2008, when he ran out of money and had to borrow from friends.

Pathos.

Pathos is an appeal to the audience's emotions. What Musk has achieved with his businesses is to develop an inspirational worldview, which Musk's biographer Vance describes as that of "a mad genius on the grandest quest anyone has ever concocted." Musk's showmanship gives him unorthodox abilities to marshal resources. Today, Elon Musk's tweets can arouse millions of retail investors. One analyst recently noted of Musk's capacity to stir emotion, "Retail [investors] will follow Elon to the gates of hell and back."

Logos.

Logos is an appeal to logic, or at least the simulation of logic. This is where Musk's Wall Street critics might say he's weakest. Many of his businesses don't articulate a clear logic, which is demonstrated by the unpredictable way these businesses ultimately reach

solutions or products. For instance, the initial motivation for SpaceX was to get people interested in space by growing the first plant on Mars. The idea was to modify a greenhouse which could be launched to Mars on a Russian rocket. No one in the aerospace industry believed he could get this done. Yet, engineers and investors fascinated with his vision joined the company.

This example illustrates the logical ambiguity of his approach. Musk has spelled out some of his prior logic in a set of “Master Plans,” but most of the logical basis on exactly how he will succeed remains ambiguous. But this isn’t Musk’s necessarily fault or negligence per se: when pursuing new technologies, particularly ones that open up a new market, there is no one who can anticipate the full set of possibilities of what that technology will be able to do (and what it cannot do). Musk’s investors tend to focus on the future, and are motivated primarily by the appeal of Musk’s authority and their own emotions towards him and their aspirations for the future. Fortunately for Musk, these are the kind of investors you want to have around when pursuing the problems his companies are trying to tackle.

Twitter and Musk’s Strategy?

Back to Musk’s attempt to buy Twitter. We may never know what a Musk-owned Twitter would look like and how it might work. He is trying to abandon the deal, and Twitter has sued, setting the stage for a legal battle. But did Musk buying Twitter ever really make sense given the strategy outlined above?

“We wanted flying cars. Instead, we got 140 characters,” Peter Thiel, PayPal co-founder and venture capitalist, famously quipped about Twitter in 2013. Musk has generally cast himself as more of a flying car guy. What could he possibly want with Twitter? The thing is, over the last decade, the technological landscape has changed, and how and when to moderate speech has become a critical problem — and an existential problem for social media companies. In other words, moderating speech has looked more and more like the kind of big, complex strategic problem that captures Musk’s interest.

That said, it’s also a different kind of problem. For one, there’s little evidence that the experience curve effects apply here. YouTube was founded 17 years ago. Reddit 16 years ago. Facebook employs more content reviewers than there are people working for SpaceX. These companies alone have poured tremendous money and time in an attempt to solve the content moderation problem. And while interest in Twitter jobs jumped more than 250% after Musk’s announcement, Musk has no track record of organizational change. He didn’t build Twitter, and the organization today doesn’t have the extreme work culture of his other companies. It’s unclear whether his ownership would be motivating or just demoralizing.

Then there's the question of whether a reorganization along the lines of this other companies — taking everything in-house and making it proprietary — would work at Twitter. Most companies decide to insource AI moderation tools, which are scalable, and outsource human content moderation, because it's grueling and doesn't require technical skills. But vertically integrating mission critical, non-technical tasks at Musk's companies — such as welding at SpaceX — has led to improvement in both the task itself, as well as adjacent processes. It's less clear how Musk's tendency towards closed systems, on the other hand, might capture extra value.

What is clear is that Musk's capacity to mobilize resources remains strong. He made a substantial personal investment in Twitter — about 10% of his net worth — reinforcing that he is aligned with investors and the long-term future of the business (*ethos*). On the other hand, Musk's appeal to emotion (*pathos*) has also been a bit complicated, generally polarizing people along ideological lines. Despite offering only vague plans and claiming that buying Twitter wouldn't be about making money (*logos*), investors still seem to defer to his record and his authority.

We may never know whether Musk's strategies might bear fruit at Twitter. But, the saga offers another useful lesson: Many an investor has lost money by following inspirational leaders who ultimately failed to deliver, and whose logic could never be, and never was, explained. In other words, the difference between genius and insanity is blurry and often unknowable until it is too late. What is clear is this: Musk has achieved already great things that no one thought were really possible, and he's done it through his own consistent, audacious strategy.

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