

# TEN WAYS

COMPANIES NEED TO FUNDAMENTALLY CHANGE  
HOW THEY DO TECHNOLOGY TO DRIVE INNOVATION



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In nearly all companies today, the leadership of the technology division is trying to balance the challenge of maintaining existing legacy platforms and cutting costs, while simultaneously supporting efforts to drive business and digital innovation and invest in the future. Perhaps not surprisingly, many companies are struggling to achieve these often-conflicting goals.

Transforming an organization from one that thinks of technology as a necessary cost to support revenue generating activities, to one that thinks of technology as the way to drive competitive advantage and top line growth is extremely difficult. Organizations that achieve this transformation are going to be industry leaders in the future, and those that do not risk being consigned to the dustbin of corporate history.

In order to act differently, you need to think differently. In our research and consulting, we are seeing companies implement their own technology transformations and successfully change in ways that offer ideas and lessons that could be widely adopted by other companies, irrespective of their industry.

What follows is a list of ten best practices and innovative ideas that have had positive impact across a wide range of different types of organizations and industries.

## 1 MOVE THE BUSINESS CLOSER TO TECHNOLOGY

You'll notice we didn't title this observation "Move technology closer to the business". Driving innovation by leveraging technology must be a business-led effort to be successful. Technology teams exist to advise, support, guide and ultimately implement the vision of business leadership using technology. But if an organization relies on its tech teams to tell them how and when to innovate, they will have likely already lost the race.

What does this mean practically? Senior business leadership, right up to the executive committee and the Board, need to educate themselves on how technology is going to change their industry, or potentially make it obsolete entirely. Whether it is the emergence of machine learning for decision making, the automation of the supply chain, the reinvention of the finance function due to big data, or the opportunities offered by blockchain, they need to regularly immerse themselves in technology so they understand what opportunities exist, and can guide their organizations as to where to invest. Consider what has become of Blockbuster as an illustration of what can result from making the wrong investment decisions.

At your next executive offsite, if the CEO of your company asked the question "Who amongst this group thinks of themselves as a technologist?", how many people in the room would put up their hands? If it is less than 50 percent, your company's technology IQ is probably too low – and in five years it is likely the answer will need to be at least 80 percent to be remain competitive in your industry. It is critical that the entire leadership team becomes technology savvy, no matter what role they occupy.

## 2 IT MIGHT BE TIME TO GET SMALLER

We aren't suggesting that you start spinning off divisions, but there is something to be said for smaller organizations. They are easier to understand, tend to align to a clear vision and make decisions faster. If it takes fifteen people on a conference call to make even a straight forward decision in your organization (or even worse, agree on a plan to make a decision), you either are organizationally too big or you are acting too big.

A way to get smaller without actually shrinking your organization is to start breaking business capabilities into more focused organizational units, each with a clear mandate to provide the company with a discrete set of services that are well defined and understood. Then put someone in charge and, if you really want to drive innovation, give them an impossible challenge to accomplish (see below for more details on what we mean by an impossible challenge).

What you are likely to find is those leaders who now have control of their own destiny start to figure out how to leverage technology to improve the world they now control – especially if you give them more direct oversight of the technology teams that support them. If you also establish intra-organization contracts (another concept we expand on below), these now smaller teams tend to focus on servicing their internal customers better, often through the application of innovative technologies.

Those readers who are more versed in modern technical architectural concepts will recognize that what we have described above is a modular, service-based architecture with defined application programming interfaces – applied to the organizational structure itself. Again, another example of bringing the business closer to technology – structure it to operate like a modern, scalable technical architecture. If you make the organization match the technology, then you’ll end up thinking of every product you create and service you provide as a “digital asset” that can be deployed in many different ways.

As an aside, how many people do you think Amazon needs to have in a meeting to make a decision? Probably not as many as you need, and it has 550,000 employees and counting and seems to shake up a new industry each quarter. It might be time to start acting small.

### 3 TRY SETTING SOME IMPOSSIBLE CHALLENGES

Perhaps surprising, people will often do what they are asked to do by their leadership team. If you set an organizational goal to cut costs by 10 percent each year, your teams will start figuring out how to do it at the beginning of the year and ideally achieve it by the end of the year – or at least get close enough to claim success.

Yet is incremental improvement really what you should be challenging your organization to accomplish?

When the founder of a startup quits their job and incorporates a shiny new company, they rarely set out to improve on an existing business problem by 10 percent. They set out to change the world, change an industry or create a new one from scratch. They have framed their challenge as revolutionary rather than evolutionary.

The next time you set goals for your team, consider giving them one that seems impossible to accomplish. If a key process takes fifteen days, don’t ask them how to shorten it to twelve days, ask them what it will take to get it to two. In considering an impossible challenge, people are forced to identify and challenge constraints that they would normally take as fixed and immutable, as there is no other way for them to be successful.

Often you just need to change the way the problem is framed to figure out how to really change the game.

## 4 CREATE INTRA-ORGANIZATIONAL CONTRACTS

When a corporation enters into an agreement with a third party, it employs lawyers to draft a detailed contract that outlines exactly what each party in the transaction is committing to. The act of negotiating the details of the contract forces everyone involved to get very clear on their assumptions and expectations, which creates the basis for a better relationship in the future.

Inside of a company all the same challenges exist as different organizational units try to work with each other, yet rarely does anyone sit down and iron out a “contract” that governs their interaction. There can be immense value gained through this process as it forces groups to be very clear as to the nature of their relationship. Contracts often consider the types and details of commitments, information that is exchanged, timing of interactions, service level agreements and connections of workflows.

Once defined, these contracts become the basis for how the processes and supporting technology works in alignment to the organization. For example, if data needs to move from one group to another across a process, the parameters of the data exchange, including completeness, quality and granularity are defined by the contract and enabled by the underlying technology.

## 5 FORCE CROSS-ORGANIZATIONAL INTERACTION

There are groups within most corporations who would derive great value from understanding what others do, but never get the opportunity to interact. One best practice that leading organizations follow is to leverage cross-functional teams of technology and business people to solve problems. But what if you expanded the approach to include participants from other functional areas with the only goal being to seed new ideas and perspectives?

The way this typically works is that one group “borrows” an innovative thinker or two from another team to help them brainstorm ways to solve a specific problem or challenge. It might mean including a technical architect from a totally different area of the business, or a business analyst who is an expert in an adjacent area. No matter how it happens, the cross functional pollination of ideas can lead to teams better leveraging ideas from across the organization, as well as building relationships that don’t currently exist.

The next time you bring together your technology and business teams to solve a problem, consider asking another team to lend you one of their members for a few days or weeks to help frame potential solutions to your problems. Then reciprocate to help them with one of their challenges.

## 6 DECENTRALIZE IT WITH FORMAL GUARDRAILS

Many large organizations have operated on a centralized technology structure for many years. The concept is that by putting the technology organization under a strong Chief Information Officer, synergies will be gained via reuse, standardization and cross-organization prioritization. What often happens instead is that innovation ends up being constrained.

When you centralize IT, you create a large organization (bad for quick decision making) with many levels of management (which constrains innovation and moves the “doers” farther from leadership) and you move IT farther away from the business. On the other side, when you distribute IT out into the business, you fragment your technical architecture and data infrastructure, lower levels of investment in companywide infrastructure and make it more difficult to enforce standards.

So, the question is, can you get the advantages of smaller teams and decentralization without incurring the cost?

Many companies have pulled this trick off by allowing decentralization to happen while requiring business-led technology teams to adhere to a strong set of standards or technical “guardrails”. Strong standardization is becoming even more critical as companies move to leverage public cloud infrastructure and need to maintain tight control on their cyber risk. In this new world, the CIO is more focused on giving the organization the technology tools it needs to drive innovation and build business solutions, and less focused on managing a huge organization or running a massive technical environment – teams closer to the business groups take on these roles.

Arguments against this model typically claim that reuse will be sacrificed, complexity will increase and that costs will rise. Yet when you analyze how much technical reuse centralized organizations actually achieve, it is usually less than anticipated. The high levels of complexity within technology environments can usually be traced to a lack of standards, not decentralization. Software engineers like to play with new toys – often for no other reason than they are new. Strong standards enforcement can control this inclination so they don’t create unnecessary complexity or technology risk.

A strong partnership between senior business and technology leadership can allow a decentralized model to thrive and drive innovation and cost management without a corresponding increase in complexity. The organization of the future might not even have a central CIO, the role being replaced by a Chief Standards Officer.

Apologies to the CIOs reading this article, but we’re sure many of you would be just as good leading a business line as you are leading the technology organization. After all, in the future business success is likely to hinge on the effective use of technology, so technical skills are going to be valued in all roles.

## 7 TEAR UP THE APPROVED VENDORS LIST

Large companies always have procurement departments whose goal is to manage the risk and cost of third party relationships. They often constrain the technology vendors that their companies are allowed to engage, under the assumption that by concentrating their buying power they get better pricing. More recently this trend has been further accelerated by formal third-party vendor risk reduction programs that aim to reduce the number of vendors so as to reduce the corresponding audit workload. The result is that only big companies get on the approved vendors list.

Yet many of the most innovative people work for small companies.

Consider ways to that your company can work with forward thinking, innovative technology companies, even if it requires moving away from an approved vendors list. Bring in small consulting firms, FinTechs and other emerging companies and incentivize them to challenge you. You might be surprised the innovative ideas you create together. You will also likely find them to be cost effective.

## 8 CREATE AN INTERNAL OPEN SOURCE APPROACH TO CODE REUSE

“Wait” you say, this one has been tried before in large organizations and it has usually failed. It’s true that many organizations have tried to copy the open source model internally with minimal success.

The missing ingredient often was a lack of aligned incentives and a way to measure how much code reuse actually happened. But, the great thing about software code is you can teach machines to scan it and tell you some pretty amazing things – including how much code reuse is happening.

If you put all your code in one place (a good idea for all sorts of reasons) and then you use code scanning tools to review it (which you hopefully already do for cyber security purposes), you can pull out metrics on how much reuse different teams have achieved. Then you can reward those teams that do a good job of leveraging code that has already been paid for by the organization such as give them money, fame or both. At the same time, you can highlight teams that aren’t taking advantage of the great work of their peers and thereby creating duplicate work.

Once your software engineers realize you are watching, they will look before they code to see whether someone else has already solved the problem. They will also contribute to your internal open source efforts more actively.

## 9 ACT LIKE A VENTURE CAPITALIST WHEN FUNDING PROJECTS

The internal venture has also been tried with minimal success by a number of large corporations. With the emergence of agile as the default methodology for building technology, it is worth reconsidering how changing the internal budgeting model can drive different results.

Most large organizations budget technology investment in an inefficient way. Once per year every line of business creates a list of critical things they need to get accomplished as part of their IT spend and submits it for consideration and approval. Shared services teams do the same thing. Then, based on the relative business case, overall corporate health and a whole range of qualitative aspects, some percentage of the ask is doled out. In good years, it is close to what was requested, and in bad years it is much less.

What is usually lost in this process is the money to try new things that don't have a defined business case that can be clearly articulated. In other words – nearly everything that is innovative and reaches for potentially unobtainable objectives. A better approach is to allocate a block of money to a program and then distribute it as a venture fund would. That means:

- The first tranche is less than 10 percent of the total available funding and is granted based on a few pages that outline the objectives, high level approach and how the first few steps in the program are going to be taken. It shouldn't take more than a day to write the pitch – if any longer, there is likely too much detail.
- Spending the first tranche should produce more than just presentation slides on paper. A prototype should be partially built, some data collected, a user interface partially designed, a vendor point of contact mostly completed – something tangible. The team has to have made visible progress towards the goal for the exercise to be considered a success. This money should not pay for meetings!
- In evaluating whether to allocate the second tranche (likely 30 to 40 percent of the total budget), the viability of the original concept should be challenged. If you are going to kill a project, this is the time to do it as the sunk cost is modest. It is important to keep in mind that the project team is likely to argue for proceeding, given the negative perception of having a project stopped in most corporations. It is critical that those making the funding decisions hold the line and demand a clear path to value.
- Once a decision is made to fund the second tranche, the company is usually committed and at this point the project team needs to be held to clear, measurable milestones. Course corrections are part of every large program, but there is no excuse for unrealistic optimism (a common issue in large projects).



- A key metric that every company should track is how many technology-related programs they kill early, once they realize that they are not going to return the value that was promised. It is likely a very low percentage in your organization and it is worth considering whether that is a good thing. When you aim for the stars, you often fail. The trick is to fail early and before you have spent a lot of money, and to learn from those failures to inform future decisions.

## 10 FIND AND RETAIN AMAZING TECHNOLOGISTS

It is an accepted fact that there is a 10x difference between the best software engineers and those that are not so stellar. The trick is to find, attract and retain those high performing technologists, something that is extremely difficult for many corporations these days.

The reality of working as a technologist in a large corporation is that much of your days are spent doing anything other than creating amazing technology. Upwards of 50 percent of your time can be spent on creating status reports, explaining what you are doing, attending meetings that aren't focused on the design of the technology or other lower value activities.

The other reality in large corporations is that technologists are hired into specific roles in specific departments, not into a pool of resources. So, while they may get to work on a tough, forward thinking project for a while, at one point the project will be done and they will be asked to support whatever they have built. It is at this point that top engineers start looking for their next gig.

Those 10x coders know this is the environment in large companies, and they also know that if they work for Amazon, Facebook, Google or any number of well-funded startups they will spend 90 percent of their time doing what they love – cranking code.

The challenge is how to insulate your best techies from the realities of corporate life, and in fact how to attract them in the first place. Some ideas from leading organizations include:

- Send your top technology leadership out to recruit and don't leave success in the hands of your human resources department. The best people aren't usually looking and don't respond to job postings. They need to be enticed out of their current roles and only peers can do that, not recruiters.
- Consider creating a pool of un-aligned technologists who will take on your thorniest problems, and then when they are done move them to the next problem rather than leaving them in a support role that they probably will hate and won't be very good at. If you promise a top software engineer they will always be working on the hardest problems, they might take a second look at your job opening.
- Pair highly skilled project management and business analysts with technical teams and let them take on non-coding tasks. Let the techies crank code.

- Drive your organization to really embrace an agile approach with fully embedded business product managers. Don't assume your coders need to be business experts – they are smart and when they work iteratively with solid product managers they will pick up what they need to know.
- Look outside your home market. Skilled software engineers exist all over the world and in many markets, there are no technology companies recruiting them and your old, somewhat boring corporation might be the most interesting game in town. You can overcome a lack of physical proximity with time zone alignment and collaboration tools.

## CONCLUSION

Technology has consistently upset the status quo from the earliest days of the commercial internet, to the craziness of the late 1990s e-business trend, through the creation of the smartphone market by Apple in 2007, the massive cost cutting post the 2008 economic crash, to today's emergence of machine learning, blockchain and virtual reality. But how large corporations leverage technology to support change in their organizations and markets hasn't really changed. In many cases, the way in which technology is "done" is the same as it was in the 1980s.

Successfully executing a large, complex technology program is as much, if not more, about the people as it is about the technology. Aligning team objectives, managing expectations, ensuring solid communication up and down reporting lines and executing a proper project marketing plan is critical, yet often a secondary consideration. Leading organizations put as much time into the organizational aspects of driving innovation as they do the details of execution. People don't self-organize into high performing teams – they need to be engineered.

While previously it was possible for an organization to continue to support their businesses on the back of ten to thirty-year old technological investments, that period is unlikely to continue. It is now time for large companies to rethink not only what technology they are investing in, but how they make those investments. Organizations that are successful in making this transition will likely find themselves with lower costs and significant competitive advantages – or they'll find themselves falling further and further behind their peers.

In ten years, it is likely that leading companies will have half the number of technologists they have today, creating twice the amount of output and innovation in large part because they will follow many of the best practices mentioned above. The only question is whether your company will be one of them.



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