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INSIGHT CENTER COLLECTION

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Data & Digital Transformation

What You Need to Know About Data & Digital Transformation

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More than ever, the ability to manage vast amounts of data will be critical to a company's continued success and its ability to succeed in a digital world. But many companies are still woefully behind the curve. Data sets live in silos, the company's technology isn't up to date, employees lack the analytical skills they need, and data breaches are common. Companies need to know how to use data to develop custom approaches for meeting client needs, hiring the right talent, measuring performance, and communicating a brand's promise. This Insight Center will cover new thinking in how to adopt and analyze data and put it to good use as part of their digital transformation. It will recap what we know about analytics best practices, and explore how the best practitioners are actually using data in their day-to-day operations.

Harvard Business Review

DEVELOPING EMPLOYEES

Digital Transformation Is About Talent, Not Technology

by Becky Frankiewicz and Tomas Chamorro-Premuzic

MAY 06, 2020

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As *The Economist* recently noted, one of the most obvious consequences of the current Covid-19 pandemic will be "the infusion of data-enabled services into ever more aspects of life." We expect digital transformation to be an even bigger imperative for organizations in the short-term future.

Contrary to popular belief, digital transformation is less about technology and more about people. You can pretty much buy any technology, but your ability to adapt to an even more digital future

depends on developing the next generation of skills, closing the gap between talent supply and demand, and future-proofing your own and others' potential.

As it turns out, most of us end up in jobs and careers for serendipitous reasons, and stay in them for a long time, rarely pausing to rethink our potential: *Am I in the right job? Is my career the best fit for by interests and abilities? Would I enjoy my life more if I had chosen something else?* Furthermore, while every job requires learning, we are prewired for familiarity, routine, and simplicity, which is why most of us end up learning less on the job, the more time we actually spend on the job. This is good in the short run, because we can do our jobs on autopilot, freeing up mental resources; yet it's counterproductive in the long run, because what we gain in experience, we miss in new learning opportunities. An even bigger loss is that we may go through our entire working lives without discovering, let alone unlocking, our true potential. As Winston Churchill once said, we should never waste a good crisis. Perhaps this is the biggest gift of the current pandemic, that it provides us with the opportunity to rethink our potential and ensure that we are positioning ourselves toward the future. To be sure, it is too soon for most people to realize this, yet in the long-term, a significant number of people will likely end up in better careers and look back on their less meaningful and less engaging past careers like someone who looks back without regret on the end of a less fulfilling personal relationship, even one where it wasn't their choice to exit.

With this in mind, we wanted to provide a few suggestions: some based on science, and some based on our own experiences leading, coaching, and mentoring current and future leaders across a wide range of industries, helping them ready themselves for an even-more-digital future. Our main assumption here is straightforward: While the future is more ambivalent and uncertain than ever, we are confident that a pretty strong bet on the future is to focus on reskilling and upskilling people so that they are better equipped to adjust to change. Just as our past efforts have enabled us to adapt to our more digital and virtual present world (and a non-trivial fact is that we are writing this, and you are probably reading this, in physical isolation), there are few reasons to suggest that this trend will go away or be reversed anytime soon. If anything, an even bigger proportion of jobs, tasks, activities, and careers will find ingenious and novel ways to coexist in the digital world. Here's how we can all prepare for that eventuality:

- **Put people first:** Technology is always about doing more with less, yet that combination is effective only if you pair technology with the right human skills. Just as technological disruption has generally led to automation and the elimination of outdated jobs, it has also always created new jobs. This is why innovation is commonly described as creative destruction. But the creative aspect of innovation is entirely dependent on people. If we can leverage human adaptability to reskill and upskill our workforce, then we can simultaneously augment humans and technology. It's really quite simple: the most brilliant innovation is irrelevant if we are not skilled enough to use it, and even the most impressive human minds will become less useful if they don't team up with tech. The main implication is that when leaders think about investing in technology, they should first think about investing in the people who can make that technology useful.

- **Focus on soft skills:** Just as digital transformation is more about people rather than technology, the key technological skills are soft skills rather than hard skills. Sure, the recruitment market is hot for cybersecurity analysts, software engineers, and data scientists. But as we recently argued in our article, "Does Higher Education Still Prepare People for Jobs?", there's an even bigger need for people who can be trained in the *next* wave of IT skills. Paradoxically, higher education is always playing catch up, because where universities perceive employer demand, they follow up with relevant courses and learning programs, creating a future surplus of talent supply in those areas. In our view, the best way to make your organization more data-centric and digital is to selectively invest in those who are most adaptable, curious, and flexible in the first place. Since nobody knows what the key future hard skills will be, the best action is to bet on the people who are most likely to develop them. Our own talent development philosophy is to combine this dual focus on potential for soft skills, and knowledge for hard skills: we select people with high learnability (people with a hungry mind) and match their interests to in-demand skills, while understanding that those hard skills may soon become outdated — so the key is that their curiosity remains intact. Technical competence is temporary, but intellectual curiosity must be permanent.
- **Drive change from the top:** The idea of bottom-up or grassroots change is both romantic and intuitive, but in reality, change is much more likely to happen if you drive it from the top down. This does not mean that you have to embrace an autocratic or hierarchical structure, or that you need a culture of fear. In fact, it's a simple matter of leadership, whether transactional or transformational. In the context of digital transformations, the main implication is that you cannot expect big changes or upgrades to your organization unless you start by selecting and developing your top leaders in that vein to begin with. It has never been clearer that leadership — both good and bad — cascades down to impact every single aspect of the organization, with as much as 50% of the variability in group or unit performance being attributable to the individual leader. This is why when we are asked about the single most important factor in determining the effectiveness of an organization's transformation, our answer is always the same: the CEO or head of the firm. Sure, industry, context, culture, people, legacy, and actual tech all matter, just as resources do. Yet most of these things tend to be rather similar among direct competitors, whereas the mindset, values, integrity, and above all, competence of the most senior leaders will stand out and be the main differentiator. Needless to say, everything in business can be copied except for talent, so if you are looking for impact, do invest in top talent, which is where you will get the most value. The distinguishing feature in the war for talent is always leadership: in-demand skills such as software engineering are what we talk about, yet the key is to find the people who can manage the software engineers and get them to work as a team to outperform other software engineers.

- **Make sure you're acting on data insights:** So much of the current discussion on data is focused on AI (artificial intelligence), or specific types of computer intelligence, such as machine learning, deep learning, or natural language processing. These powerful advances in AI are exciting, yet we don't see them as the main differentiator for future-proofing your organization. A much bigger competitive advantage is to harness valuable data, having the necessary skills to translate that data into meaningful insights, and above all being able to act on those insights. In our view, data without insights are trivial, and insights without action are pointless. We cannot overemphasize the importance of this point, because too many business leaders operate under the false assumption that if they hire smart data scientists or buy fancy AI tools, their problems will go away, or they will somehow become more high-tech. The big difference between Google and the rest, between Amazon and the rest, between Facebook and the rest, is not the brain power of their data scientists, or the actual functionality of their technology (and, yes, we may see them as first-in-class), but their radical data-driven cultures. They have harnessed amazing data assets and have great algorithms to interpret (and monetize) that data, but their key strategic advantage and biggest asset is that they live, breathe, and act according to the data. Data truly is their oxygen, and that is something you cannot buy; you cultivate it, nurture it, and harness it with time — and above all, with leadership (back to point 3).
- **If you can't fail fast, make sure you succeed slowly:** The statements that speed is king, that action is key, that perfect is the enemy of good, and that you should be willing and eager to fail fast, have all become clichés in management thinking. But, the only way to adapt to a constantly changing and rapidly disrupted present is to speed up and operate at pace. Of course, there is always a trade-off between speed and quality, so if you cannot fail fast enough — meaning you don't have a culture in place that tolerates quick experiments with the view that the lessons learned from those failed experiences will make you stronger and smarter, then you need to be sure that your long-term bets are working out. In other words, it's okay to succeed slowly if you can't fail fast. At the end of the day, failure is only a strategy for getting to success in the long run, so if you pick another strategy, that's fine — just make sure you can actually get there. However, remember that few things breed stagnation and a false sense of security like an obsession with success. Indeed, we often hear leaders rationalize their failures with a self-congratulatory "we have learned from our mistakes," yet it's much harder to learn from your successes.

As the last several weeks have demonstrated, we are agile as a global community. This agility has been people-led and technology-supported. Human beings are the common denominator to the concept of future proofing, whether it's as a complement to the technology being unleashed for remote working, or whether it's because we possess the soft skills and leadership needed to navigate a historic crisis, or because we have the insights needed to drive slow success or fast failure for a cure. It all starts with each and every one of us, and those we are responsible for developing. The key is to nurture curiosity, so we have options, even outside of a crisis.

Becky Frankiewicz is President of ManpowerGroup North America and a labor market expert. Before joining ManpowerGroup, she led one of PepsiCo's largest subsidiaries, Quaker Foods North America, and was named by Fast Company as one of the most creative people in the industry. Find her on Twitter: @beckyfrankly.

Tomas Chamorro-Premuzic is the Chief Talent Scientist at ManpowerGroup, a professor of business psychology at University College London and at Columbia University, and an associate at Harvard's Entrepreneurial Finance Lab. He is the author of *Why Do So Many Incompetent Men Become Leaders? (and How to Fix It)*, upon which his TEDx talk was based. Find him on Twitter: @drtcp or at www.drtomas.com.

Harvard Business Review

TECHNOLOGY

Digital Transformation Comes Down to Talent in 4 Key Areas

by Thomas H. Davenport and Thomas C. Redman

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Over the years we've participated in, advised on, or studied hundreds of digital transformations. In doing so, we've gained a perspective on just how difficult true digital transformation really is and what it takes to succeed. Digital transformation is not for the faint of heart — the unfortunate reality is that, to date, many such efforts, like transformation programs in general, have failed.

Success requires bringing together and coordinating a far greater range of effort than most leaders appreciate. A poor showing in any one of four inter-related domains — technology, data, process, or organizational change capability — can scuttle an otherwise well-conceived transformation. The really important stuff, from creating and communicating a compelling vision, to crafting a plan and adjusting it on the fly, to slogging through the details, is all about people.

More than anything else, digital transformation requires talent. Indeed, assembling the right team of technology, data, and process people who can work together — with a strong leader who can bring about change — may be the single most important step that a company contemplating digital transformation can take. Of course, even the best talent does not guarantee success. But a lack of it almost guarantees failure.

Let's explore the talent needed in each of the four domains in turn.

Technology

From the Internet of Things, to blockchain, to data lakes, to artificial intelligence, the raw potential of emerging technologies is staggering. And while many of these are becoming easier to use, understanding how any particular technology contributes to transformational opportunity, adapting that technology to the specific needs of the business, and integrating it with existing systems is extremely complex. Complicating matters, most companies have enormous technical debt — embedded legacy technologies that are difficult to change. You can only resolve these issues with people who have technological depth and breadth, and the ability to work hand-in-hand with the business.

Challenging as these difficulties are, an even more critical issue is that many business people have lost faith in their IT department's ability to drive major change, as many IT functions are primarily focused on "keeping the lights on." Eventually, however, digital transformation must incorporate institutional IT, so rebuilding trust is essential. This means that technologists must provide, and demonstrate, business value with every technology innovation. Thus, leaders of the technology domain must be great communicators, and they must have the strategic sense to make technological choices that balance innovation and dealing with technical debt.

Data

The unfortunate reality is that at many companies today most data is not up to basic standards, and the rigors of transformation require much better data quality and analytics. Transformation almost certainly involves understanding new types of unstructured data (e.g., a driver-supplied picture of damage to a car), massive quantities of data external to your company, leveraging proprietary data, and integrating everything together, all while shedding enormous quantities of data that have never been (and never will be) used. Data presents an interesting paradox: Most companies know data is important and they know quality is bad, yet they waste enormous resources by failing to put the proper roles and responsibilities in place. They often blame their IT functions for all these failures.

As with technology, you need talent with both great breadth and depth in data. Even more important is the ability to convince large numbers of people at the front lines of organizations to take on new roles as data customers and data creators. This means thinking through and communicating the data they need now and the data they'll need after transformation. It also means helping front-line workers to improve their own work processes and tasks such that they create data correctly.

Process

Transformation requires an end-to-end mindset, a rethinking of ways to meet customer needs, seamless connection of work activities, and the ability to manage across silos going forward. A process orientation is a natural fit with these needs. But many have found process management — horizontally, across silos, and focused on customers — difficult to reconcile with traditional hierarchical thinking. As a result, this powerful concept has languished. Without it, transformation is reduced to a series of incremental improvements — important and helpful, but not truly transformative.

In building talent in this domain look for the ability to "herd cats" — aligning silos in the direction of the customer to improve existing processes and design new ones, and a strategic sense to know when incremental process improvement is sufficient and when radical process reengineering is necessary.

Organizational Change Capability

In this domain we include leadership, teamwork, courage, emotional intelligence, and other elements of change management. Fortunately, much has been written about this domain for many years, so we won't review it here, other than to note that anyone responsible for digital transformation must be well-versed in the area. While, we have no firm evidence to support this, it seems that those who gravitate toward technology, data, and process are somewhat less likely to embrace the human side of change. Of course, in our recommendations above, we have urged leaders to seek those with excellent people skills. If you are unable to find them, a good alternative is to put some "purple people," those able to work on both sides, on the transformation team.

Pulling It All Together

So far, we've discussed the technology, data, process, and organizational change capability domains as if they existed in isolation, which of course they don't. Rather, they are part of a larger whole. Technology is the engine of digital transformation, data is the fuel, process is the guidance system, and organizational change capability is the landing gear. You need them all, and they must function well together.

Consider the "our systems don't talk" problem, which bedevils most companies and is anathema to digital transformation. But in which domain does it belong? As described above, it is a tech problem — but it also leads to enormous process inefficiencies. Yet it stems from a lack of solid data architecture, and it may involve organizational structure and politics issues that are difficult to change. So one could argue that any domain should take the lead. But the best solution involves the four working together.

Absent a deep understanding of each domain, it is difficult for nearly all business leaders to see the full potential in digital transformation — a contributing factor to many failed digital transformations. But of course, no one individual possesses all the required knowledge and capability. Hence our call to assemble talent in each area.

Finally, work on technology, data, and process must proceed in an appropriate sequence. It is generally accepted that there is no sense automating a process that doesn't work, so in many cases, process improvement or reengineering must come first. On the other hand, some transformations will feature large doses of artificial intelligence. Since bad data stymies development and deployment of good AI models, in these cases, work on data should come first. Start with your end goals, then develop the sequence of steps best suited to achieving them

Digital transformation can and should be focused on problems of greatest need to the company. Those priorities will also lend a flavor to the talent needed; if the focus is on transforming customer relationships, for example, the data talent on the team may have particular expertise in customer data, the process talent on sales and marketing processes, and so forth. More important, however, is that the talent possesses the four types of expertise we have described and has had previous success at creating and executing on any kind of technology-driven transformation.

Thomas H. Davenport is the President's Distinguished Professor in Management and Information Technology at Babson College, a research fellow at the MIT Initiative on the Digital Economy, and a senior adviser at Deloitte Analytics. He is the author of over a dozen management books, most recently *Only Humans Need Apply: Winners and Losers in the Age of Smart Machines* and *The AI Advantage.*

Thomas C. Redman, "the Data Doc," is President of Data Quality Solutions. He helps companies and people, including start-ups, multinationals, executives, and leaders at all levels, chart their courses to data-driven futures. He places special emphasis on quality, analytics, and organizational capabilities.

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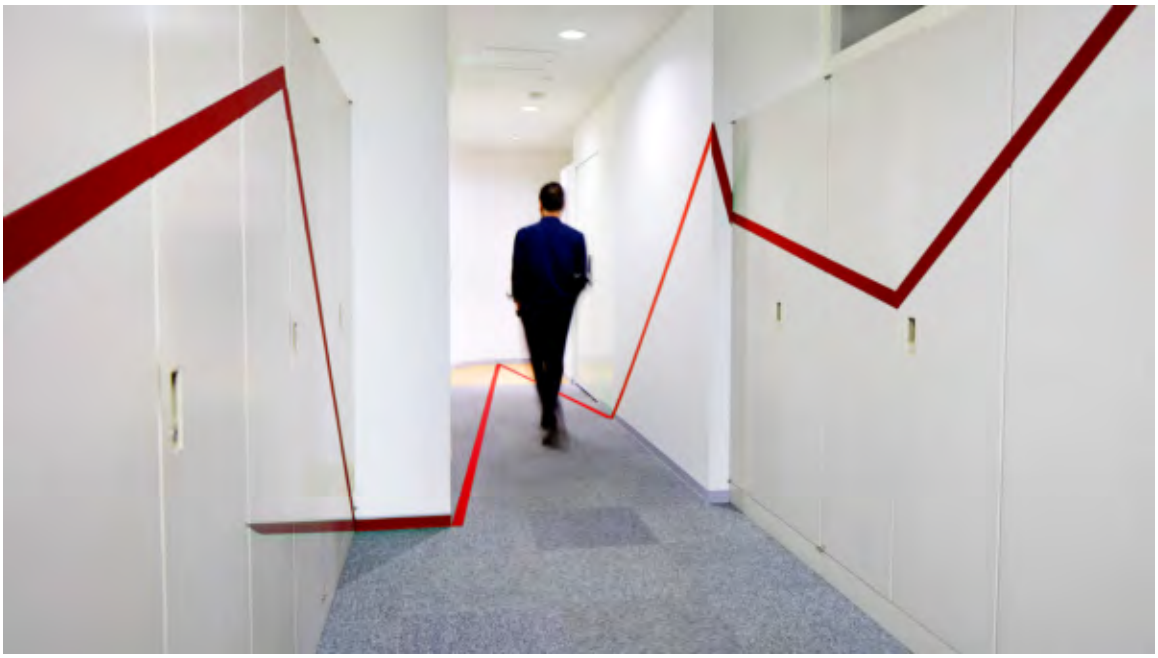
LEADERSHIP

How CEOs Can Lead a Data-Driven Culture

by Thomas H. Davenport and Nitin Mittal

MARCH 23, 2020



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While businesses across the world are trying to make more effective use of data, analytics, and AI, a key impediment is holding many of them back: The lack of a culture that truly values data/analytics capability and the superior decision making that can flow from it. Yet as we'll describe, it's possible to create a data-driven culture and accrue the competitive benefits that result.

In companies with strong data cultures, important decisions are informed by data and analytics and executives act on analytically derived insights rather than intuition or experience. While digital-native companies like Amazon and Alibaba have strong digital cultures, many traditional companies

are struggling to make progress. That's mostly because few undertake initiatives directly aimed at achieving the desired culture change.

Thus, it shouldn't be surprising that a 2019 Deloitte survey of U.S. executives found that most – 63% – do not believe their companies are analytics-driven and 67% say they are not comfortable accessing or using data from their tools and resources. Data from surveys taken over time suggest that the problem may be getting worse. A NewVantage Partners survey of large U.S. firms, for example, found that only 31% of companies say they are data-driven, a figure that has declined from 37% in 2017. In 2019, more than three quarters reported that business adoption of big data and AI initiatives remains a major challenge. But 95% of them said that cultural, organizational, and process challenges presented the biggest roadblocks to adoption. Only 5% cited technology as the problem.

The CEO's role

Clearly, culture depends in large part on the orientation of senior leaders, and especially the CEO. There is little doubt that a CEO's own reliance on data – or lack thereof – in decision making and improving the business sends a powerful message to the rest of the organization.

But a CEO's initial resistance or lack of awareness does not mean that an organization can't make progress. Just as CEOs are often counselled on their communications and leadership skills, they can also be moved in the data domain through coaching, either by an internal champion, such as the chief data officer, or by outside experts. Linking data and analytics to issues the CEO already holds dear, such as customer focus or employee empowerment, can prove persuasive, as can pointing to outside factors that depend on having a data-based decision making such as regulatory requirements (for example in hospital readmissions) or the threat of more data-driven competitors.

While the CEO should become a visible champion of the new culture, he or she needs an operational partner. A logical candidate is the chief data officer, a role that is growing in prevalence, visibility and scope. The CDO is well positioned to become the data and insight change agent, leading the initiatives we describe below.

Culture Change Programs

In addition to trying to convert a passive or reluctant CEO, three types of change programs can move an organization in the right direction.

Carefully planned ***educational programs*** should be pushed into every level of the organization. Experiential programs such as design thinking exercises, group problem-solving, and hands-on hackathons tend to be more effective than talking heads. Position-appropriate exercises for staff at different levels can illustrate the benefits of analytics and data-based decisions; for example, executives can focus on framing the problem, and front-line employees can interpret the implications of analytics for customer relationships. To see an example of one such initiative, look at

this simulation program developed by one of us (Davenport) to teach analytical decision-making in a consumer products company.

Education should focus not only on attitudes and knowledge about data, analytics, and AI, but also on skills for finding and manipulating data at every level, including senior management levels. A survey sponsored by the data analytics vendor Splunk of 1,300 senior executives found that while 81% of the executives agree that data skills are required to become a senior leader in their companies, 67% say they are not comfortable accessing or using data themselves. Seventy three percent felt that data skills are harder to learn than other business skills, and 53% believe they are too old to learn data skills. Effective education initiatives can prove them wrong.

TD Bank Group, for example, has developed a day-long educational program called "Data and Analytics Academy for the Non-Analytics Executive." The Academy employs an immersive approach using a customized case study, simulations, and a series of exercises. In the program, participants work on framing a business problem such as identifying customers whose portfolio of banking products is not maximizing the performance of their assets, identifying internal and external data sources to help address it, and then operationalizing analytical solutions. So far, more than 300 executives have taken the course. The D&A Academy is part of a broader set of programs designed to improve knowledge of and stimulate demand for data, analytics, and related technology. (See this article which details one such program.) These changes are working for TD; it recently made being "data-driven" one of its five strategic priorities.

Leading by example is also important. This requires showcasing leaders who visibly use analytics and AI in internal marketing programs to spread the value of the approach across an organization. Leaders' exemplary behavior can also include modeling the desired attitude about data and analytics in meetings; leaders should frequently ask, "Do you have data to support that point?" and encourage others to do likewise.

While too few leaders recognize the importance of modeling and marketing their use of data and analytics, companies are increasingly designating champions of AI; 45% of U.S. executive respondents to the 2018 Deloitte "State of Enterprise AI" survey said their company was appointing such senior management champions. Forming communities of practice around analytics and AI are another way to publicize positive examples.

Promotions and rewards can also encourage change. If those who make effective use of data and analytics get faster promotions and salary increases, others will notice. Of course, this approach requires leadership endorsement and sign-off and execution by Human Resources.

Putting it all together

Eli Lilly and Company is applying many of these strategies to shift its culture. Chief data and analytics officer Vipin Gopal, the first Lilly CDO, is building on the company's deep research- and statistics-

oriented culture to engage its employees with advanced analytics and AI. Among other objectives, Gopal is working to communicate the value that these methods can bring to their work, ultimately reducing the time and cost required to bring new medicines to patients.

To that end, Gopal and his colleagues are pursuing a variety of strategies, including:

- Highlighting successes by early adopters and enlisting them help get others engaged;
- Forming cross-functional teams that combine people with backgrounds in data analytics, business, and technology and combining computer science, applied math, engineering, and behavioral economics perspectives to bring diversity and innovate thinking to projects; and
- Launching programs across the organization, including open houses, forums, communities of practice, educational initiatives, and a leadership council – in effect, building marketing capability for analytics and AI within the company that helps create advocates and ambassadors.

Technology is everyone's job

Today, every job requires an orientation toward technology. Beth Galetti, Amazon's senior vice president of worldwide HR, recently commented (when asked about the company's $700 million reskilling investment for employees), "The most consistent thing we see that's changing is the need for some level of technical skills in any job." With basic tech-savvy, employees have not only the fundamental skill they need in a fast-evolving competitive environment, but the mindset required to support a flourishing data and analytics culture.

Cultural changes take a long time to mature, and culture is influenced over time by every leader who joins an organization. It's important for someone to monitor changes in the data/analytics orientation of the leadership team (this might also be the CDO's purview). Several years ago, the analytics group at one consumer products firm did an analysis of every senior manager to determine how oriented to data and analytics each was. Any manager deemed unsympathetic became the target of a customized persuasion initiative. If a manager left the company, all possible successors to the position were analyzed, and the most likely candidates were subject to persuasion interventions if they seemed to lack the desired data/analytics orientation. This program may seem manipulative, but it was in the service of the company's success—and it's the kind of thinking that advocates of data-driven cultures need to adopt.

In creating a data-driven culture, there's no rest for the weary. We know of organizations that were hugely focused on data and analytics, but when the CEO champion left they drifted back to their old gut-based thinking and decision-making. From boards of directors to CEOs to analytics and AI leaders, everyone who believes in this focus should work to persuade others to adopt and maintain it. No one should assume that software and hardware alone will lead the organization to the cultural promised land.

Thomas H. Davenport is the President's Distinguished Professor in Management and Information Technology at Babson College, a research fellow at the MIT Initiative on the Digital Economy, and a senior adviser at Deloitte Analytics. He is the author of over a dozen management books, most recently *Only Humans Need Apply: Winners and Losers in the Age of Smart Machines* and *The AI Advantage*.

Nitin Mittal is a Principal at Deloitte Consulting and the leader of its Analytics and Cognitive Offering, and the co-leader of Deloitte LLP's AI Strategic Growth Offering.

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OPERATIONS

Don’t Let Digital Transformation Make You Less Human

by Martin Lindstrom

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HBR STAFF/YIFEI FANG/GETTY IMAGES

We all understand that customers and colleagues should be treated with respect — and we all know, too, that digital technologies can get in the way of that happening. Whatever the “job to be done,” key communications tend to become less direct and more impersonal when the job’s digitized. That’s just the nature of the beast: Apps and other technologies are doing a lot of the work that people used to do — and you can’t train an app to have empathy. It doesn’t help that engineers tend to optimize efficiency, rather than user experience, when they redesign work flows.

This isn't a straightforward problem; it's not possible or desirable to turn back the clock on digital transformation, of course, and it's not always easy to re-engineer operations without losing the personal touch. That said, this is a particularly good moment to remember that efficiency won't get you anywhere if emotional intelligence isn't built into your operations. Because of Covid-19, your employees and customers are working under extraordinarily stressful conditions. Many of them are isolated and forced to work with new technologies, fast. They're worried about their jobs, their health, and their loved ones. You need your employees to work harder and smarter than ever before, and you need your customers to be patient and loyal — and none of those things will happen if they don't feel valued, respected, and heard.

Fortunately, there are common-sense ways to keep the importance of human experience front-and-center even as you update your operations.

Keep an eye on incentives – especially if you centralize services.

Maersk, the giant container ship company, has long operated with a high degree of rationality; it has unusually advanced IT systems. Several years ago, the company set up a Global Shared Services department with the goal of boosting efficiency via digital oversight of all the scattered logistics operations supporting shipments, including the call centers.

The new department wanted to improve call center performance and, with that in mind, introduced key performance indicators (KPIs) and standardized online forms. Instead of a general mandate to help customers, call center staff had a "tick-the-box" approach, where they could offer certain kinds of help only if the customer's situation met certain criteria. Staff also had a four- to five-page form to fill out after every call, so the company could learn from customer complaints. Bonuses were tied mainly to the KPI for the number of calls an agent covered each day.

This well-intentioned plan fell flat, however, as many agents felt pressured by their remote taskmaster. They started to check off a heretofore rare explanation for a shipping problem —"force majeure" — meaning that something outside the company's control had delayed or damaged a shipment. For force majeure cases, agents had to fill out only a single-page form, so they could move quickly to the next caller – i.e., they didn't need to spend time understanding the customer's problem or looking for solutions. Customers, needless to say, were not happy. The agents were gaming the system, but the company had essentially created incentives for them to do that.

After a sharp fall in the stock price and a $2 billion loss in 2016, Maersk eliminated Global Shared Services and gave each region autonomy in how it ran logistics. Most call center employees now got common-sense metrics that yielded much better information about customer problems. Customers were happier, too: The company's worldwide Net Promoter Score doubled in a single year. Local autonomy undoubtedly introduced some inefficiencies, and the regions now had to negotiate with each other over common challenges rather than rely on the central department. But the greater connection to customers made that worth it.

The same thing happened on a wider level in 2017, when a devastating cyberattack forced the company's entire IT system offline for a week. To keep shipments on track, employees had to leave their screens and call customers and dock managers, and in some cases even drive over to the port. It was absurdly inefficient, and profits took a short-term hit. But managers say morale and productivity rose substantially once everything was back online. People suddenly got to see and hear the people they were working with; they weren't just entries on a screen. The newly energized organization went on to eliminate a variety of nonsensical policies, and earnings more than doubled in the year after the attack.

Find the right tool for the job.

The Dorchester Collection is a group of nine world-class, elegant hotels, and it wants to stay that way. To ensure excellent service, back in 2017 it gave its hotel staff detailed digital checklists with such items as "Ask guests about newspaper delivery —but don't show a religious or political preference," and "Mention the option of room service." Some of the items were focused on getting the staff to relate to customers in a human way, for example: "Look the guest in the eye for three seconds as they approach the counter for the first time." The company used mystery guests to grade the staff, and those whose eye contact was too short — or too long — saw their pay docked.

The elaborate guidance left the staff anxious, focused on the checklists rather than on how their guests were actually doing. They stopped truly seeing the guests as individuals, and instead treated everyone the same. The Dorchester tried a different tack. It dropped the checklists, and encouraged the staff to use their judgment when interacting with individual customers. Then it launched an internal initiative, "If Walls Could Talk," with stories about interacting with famous guests: The house piano player who grudgingly allowed someone to sing along — who turned out to be Whitney Houston. The staff member who told Frank Sinatra on December 7, 1941, that Pearl Harbor had just been hit. This kind of story encouraged staff members to see their guests as real people — and to see the hotel as an institution with a glorious past. Checklists can be a powerful tool, of course, but not when you're aiming for highly personalized service.

Change the presentation culture.

People have been making fun of slide presentations for years, yet companies seem to be using them as much as ever. Slides are so efficient at displaying information quickly that we can't resist.

But we can. London-based Standard Chartered is one of the world's largest retail banks, with extensive operations in Asia and Africa. At some point leaders realized that PowerPoint presentations were cutting down on the most important kinds of communication. At meetings, people focused on the slides and paid little attention to the presenters. So the bank substantially reduced slide usage in 2018. People no longer focused on the detailed information (which could, of course, be communicated in other forms). They started to make eye contact and to treat the presenter's talk as just the starting point for discussion. The sheer volume of information fell, but nuanced discussion and collaboration shot up.

Remember that digital communication sometimes works *better* than traditional communication.

When the Baltic Sea froze over in 2015, it really *was* a case of force majeure, but Maersk's customers still complained. The call center agents tried to explain, often without success. But then the company had its ship captains take photos of the difficulty of navigating through the ice. It posted the photos on a Twitter account, "WinterMaersk," and cell agents pointed people to the account. Many customers suddenly appreciated what it took to deliver their cargo and weren't so upset over delays. The company gave that newfound sympathy partial credit for securing an uptick in orders the following year.

Most companies appreciate the importance of relating to colleagues and customers in a human way. They offer training courses in emotional intelligence and communication skills. But when it comes to designing their operations, they too often default to what looks to be the most efficient, digitally-advanced approach. Fortunately, we can gain many of the efficiency benefits of technology without sacrificing the human touch, so long as we stay focused on customer satisfaction and employee engagement.

Martin Lindstrom is an international marketing consultant and the author of the forthcoming book *The Ministry of Common Sense: How to Eliminate Bureaucratic Red Tape, Bad Excuses, and Corporate BS* (HMH, January 2021).

Harvard Business Review

DATA

Don’t Let a Single Metric Drive Your Business

by Jonathan Golden

MAY 11, 2020

HBR STAFF

Metrics are essential to running a business. We all know that. What may not be as obvious, though, is how metrics intersect with your company mission and even employee happiness. Prioritize a single number — to the exclusion of all others — and you’ll invariably leave a lot of people and priorities out. Moreover, you’re likely to constrain your growth. During my time at Airbnb, I lead teams that included product managers, designers, engineers, and data scientists. It would have been impossible to capture the complexities and interactions of their activities with a single metric. Instead, it took a constellation of metrics to capture what the business needed to scale and how each team could facilitate that success.

This constellation is made up of three kinds of metrics: quantity, quality, and efficiency. In relationship to each other, they tell the story of your business and allow for prioritization and alignment. They become a shorthand language internally when committing resources and making investments — or trade-offs.

1. **Quantity** is typically the top-line product metric that measures value or usefulness delivered to the customer — and, ultimately, revenue to the business.
2. **Quality** is the level of service customers receive when they consume your product. It can be a measurement of satisfaction, engagement, or retention.
3. **Efficiency** can be expressed in many different ways, but ultimately it is about having a high return on your investment (of people, time, or capital).

Let's take Airbnb as an example: Our quantity metric was number of nights booked on the platform. For a key quality metric, we looked at the net promoter score (NPS) of our guests, a measure of customer loyalty. And to measure whether we were delivering the product efficiently, our key metric was customer support tickets per reservation. No single one of those metrics could tell the whole story of our business.

Of your top three metrics, one should become a north star for the business — almost always this will be the quantity metric that you are trying to optimize. Quantity measures the value that you are creating for both the customer and the business. I strongly recommend choosing a product metric, not a financial one. Why not just use revenue? Both as a startup leader and now as a partner at NEA, I've seen that financial metrics are a derivative of a great product. If Airbnb had optimized on revenue, rather than nights booked, we might have skewed the business to high-priced properties. Instead, we focused on delivering the same magical experience whether a night cost $100 or $1,000, and built a customer base of evangelists. Building an authentic, scalable business demands a laser focus on the core product or experience you offer. Do that, and the revenue will follow. (One caveat: sales teams *do* need to be focused on increasing top-line revenue directly, and it makes sense to measure them in a way that reflects that.)

Your other two metrics then become threshold metrics — that is, you want to maintain quality above a certain level or efficiency under a certain ratio. For a SaaS product, that north star quantity metric might be the number of monthly active users (MAUs). The quality metric might then be daily active users (DAUs) over MAUs, with the efficiency metric being a sales efficiency measurement like the magic number, which measures revenue growth over sales and marketing expenses. A consumer product startup might focus on number of transactions as their quantity metric, with repeat purchases (a sign of retention) and operational margin as threshold metrics.

At Airbnb, nights booked was our north star metric. But it sometimes needed to take a back seat, when our quality or efficiency metrics started flashing red. In 2012, after we launched internationally, nights booked spiked but product defects dramatically increased too (a story I detailed in Lessons Learned Scaling Airbnb 100x). We had 1.3x more customer support tickets than reservations, and our

customer support team was underwater. We could either hire 500 people within the next three months to manually handle the tickets or hunker down and focus on efficiency by shifting engineering resources to actively fix the product.

We started by tackling cancellations. Instead of requiring customers to email an agent, we automated the process to just the click of a button. Yes, that decreased nights booked by increasing the number of cancellations. But it substantially reduced customer support overhead and, more importantly, improved customer NPS, our quality metric, in the process. We focused on the customer experience, understanding that it would be best for the business in the long term even if the quantity metric took an immediate hit. And by continually refining our product through conversion optimization, we recovered lost bookings within the next month.

Too often, companies realize the usefulness of a constellation of metrics when it's too late and they have to shift all their attention away from the north star metric. (Like when Facebook shifted major resources in 2012 to rebuild the mobile app that was taking many seconds to load, a process detailed on Facebook's blog.) Develop these metrics early on, and you won't get too far away from the balance that exists between them.

You'll also end up bringing more teams into the conversation. When a startup is focused solely on quantity, often only the operational teams feel that they are doing the company's most important work. But it is up to leadership to recognize and include the whole organization. At Airbnb, we would even put posters around teams' desks highlighting their key metrics or team mantra to re-emphasize the point: what they worked on mattered not just to them, but to everyone. For instance, the payments team poster read "less transactional, more human" to remind them that making payments work seamlessly allowed for a more authentic interaction between guest and host — a vital contributor to quality. Realistically, there are always parts of the organization that cannot measure their work by the metrics set at the leadership level. For instance, recruiting and talent teams are not going to drive core product metrics. But those teams can, and should, develop the quantity, quality, and efficiency metrics that encapsulate their own critically important efforts. Identifying a constellation of metrics at the highest level models how to do that.

Metrics aren't just a series of numbers; they should be a reflection of your company vision. Leaders can start by asking, "What do we want the world to look like in one to five years?" Then define the outcome: "What do we want to achieve in the next year to help realize this vision?" Work with the executive team to develop the metrics that will align the team to achieve that outcome. Even three metrics won't capture everything, but in the process of defining the metrics lies the value. It forces teams to think about what matters most, and to understand (and mitigate) how their constraints could hamper key product or operational priorities.

No metric is perfect. But understanding, and regularly reassessing, the relationship between quantity, quality, and efficiency is critical to more deeply understanding your business — and to staying nimble. It will enable you to drive what matters most — the customer experience — and

empower all of your teams in the process. Done right, metrics are among the best ways to make people truly understand how their work impacts the business in a positive way.

Jonathan Golden is a Partner at the venture capital firm NEA, where he focuses on consumers, marketplaces, and bottoms-up SaaS investments. Before joining NEA, Jonathan was Director of Product at Airbnb, where he led several product teams including international, monetization, payments, and Airbnb for Work. Previously, he was a Product Manager at Dropbox and Hubspot. You can follow him on Twitter @jpgg.

Harvard Business Review

DATA

The Most Important Metrics You're Not Tracking (Yet)

by Gene Cornfield

APRIL 30, 2020

HBR STAFF

Most leaders say they're customer-centric, but if everything they measure is company-centric, how could that be true? Revenue, growth, and similar Key Performance Indicators (KPIs) measure how customers are performing for the company. But organizations that wish to be customer-centric (and maximize growth) must also measure how the company is performing for its customers.

Now, while customers typically don't have online dashboards with data visualizations that reflect how a company is performing for *them*, customers *do* bring to every interaction a purpose, problem, need, intent, or question — a desired outcome — along with expectations for how quickly or easily that outcome will be realized. These outcomes can be measured by associated Customer Performance Indicators, or CPIs.

A growing number of organizations are becoming more customer-centric by adopting, measuring, and optimizing CPIs — whether their customers are consumers or business buyers. And because customers are the one and only thing that fuel growth, how well a company performs against CPIs often serves as the most powerful lever for, and the most accurate predictor of, growth.

Consider an example from the insurance industry. When a customer is shopping around for insurance and submits an online form (or provides information over the phone), companies that provide pricing — the customer's desired outcome — within seconds are much more likely to win the customer's business than those who thank the customer for their inquiry and promise a future follow-up by an agent. In this case, the customer's intended outcome and expectation is a *fast quote*.

While one company is following its process of routing the inquiry to the appropriate agent according to geographic or other rules, the customer is collecting quotes from competitors. By the time an agent contacts the customer, she may have already completed her purchase from another company that performed better against her *fast quote* expectation. Insurance companies that measure and manage "*Fast Quote"* as a formal CPI find a direct correlation between performance on this CPI and growth.

This is the primary rationale for adopting CPIs: The more your company's attention is focused on outcomes important to your customers (CPIs), the better your company will likely perform on outcomes important to the business (KPIs).

Distinguishing CPIs from KPIs

There are two elements that qualify a metric as a CPI. Most importantly, it must be an outcome customers say is important to them. Second, a CPI must be measurable in increments that customers actually value. Time, convenience, number of options, dollars saved, or recognition of their achievements are some increments that customers value, and there can be many others depending on the context, and if they're deemed relevant by customers.

Many assume that Net Promoter Score (NPS) — which measures a customer's willingness to recommend a company's products or services to others — is a CPI. But in reality, only companies care about their NPS; customers typically do not. So, NPS is just another KPI. While it may be a vague proxy for how well a company is performing for customers, unlike CPIs, NPS does not provide direct traceability to any single intended customer outcome or expectation, or show where the company may be falling short, all to the detriment of the company's growth.

Any group that directly or indirectly touches customers can use CPIs, including marketing, sales, product management, customer service, operations, and finance. Some real-world examples:

- **Marketing:** A top insurance company tracks *Payment Flexibility* as a CPI, as they offer online selection and management of multiple payment plan options. The company tracks how the number and types of options they offer impact customer acquisition and retention KPIs.
- **Sales:** A global provider of enterprise data center equipment tracks *Quote Turnaround Time*, which can impact successful sales in the same way as the insurance example above, but in the context of business buyers (who may not expect custom quotes within seconds, but do get impatient after a day).
- **Product management:** An audio product manufacturer discovered the CPI *Know Which Friends Like This Song*, which they measured in the increment of "number of friends," which reinforces feelings of social acceptance and well-being. This CPI was found to influence business KPIs like the amount of time customers spend streaming music, and new song purchases.
- **Customer service:** Many customer service organizations track the CPI *First Time Resolution*, which measures whether a customer's issue is addressed (to the customer's satisfaction) during their first inquiry. This impacts customer retention and lifetime value KPIs.
- **Operations:** A U.S. grocery delivery service measures the CPI *Nothing Broke* (eggs or fragile foods or containers). This CPI not only impacts KPIs like customer retention and lifetime value; it also impacts company savings associated with the cost of customer service, issuing credits, and/or replacing broken items.
- **Finance:** While many organizations track *CustomerLifetime Value*, which is a KPI that measures the value the company derives from a customer over the duration of their relationship, some (including the audio product manufacturer referenced above) are beginning to also look at the inverse: the value delivered to customers over the same duration, which can be displayed to customers in user portals, or communicated prior to renewals. Impacted KPIs include customer retention, loyalty, and classic lifetime value itself.

While these examples may not be metrics that companies have traditionally tracked, they're what customers actually care about. And by tracking what's important to customers, companies have better visibility into actions they can take to improve customer outcomes, which directly impact business performance.

When employees are only measured on and compensated for their performance on KPIs, they're naturally incentivized to do whatever is necessary to achieve that outcome for the company. This often includes manipulating customers, which customers do not like. Conversely, when employees are accountable to CPIs, they're motivated to help customers achieve the customer's desired outcome. CPIs align employee and customer interests toward shared success.

Is it any surprise, then, that companies adopting CPIs — with employee mindsets and behaviors focusing on customer outcomes — typically result in more (and often faster) sales? Or that customer sentiment, behavior, and loyalty typically improve?

Defining Your CPIs

There are four common mistakes companies make when trying to define their own CPIs. These include: simply adopting CPIs from another company (which will only reveal what's important to *their* customers); relying on expert judgement from internal teams who assume (usually inaccurately) that "we know our customers and what they need"; focus groups (which reveal misleading groupthink); and surveys, which are the most tempting of all because of relative speed and scale.

None of these approaches work well for identifying the CPIs associated with the specific outcomes *your* customers expect when interacting with people, systems, processes, or policies in pursuit of their specific objectives. Instead, the most effective approach for identifying CPIs is contextual inquiry, an ethnographic research method in which specially trained researchers speak with or observe customers in the actual environments in which customers think about or try to achieve specific outcomes (homes, offices, stores, other locations, or traveling in between).

Researchers trained in this type of ethnography know what to look for to reveal customer frustrations, expectations, and target outcomes at specific points of their journeys, and then ask the right series of open-ended questions to gain insights that surveys wouldn't know to ask, and that customers might not be inclined to answer in a survey.

Driving Business Performance by Connecting CPIs to KPIs

Once you've determined your own CPIs, start measuring them and look for the potential relational impact each might have on one or more of your KPIs. The subsequent hypotheses you develop about CPI-KPI relationships can be proven or disproven by running controlled experiments.

Once you've confirmed relationships between specific CPIs and KPIs, you can begin holding teams accountable to CPIs they can impact. Those employees will then be managing to the outcomes important to customers, which are what result in company growth.

It's ironic in an age where so many companies proclaim to be customer-centric, customer-first, or customer-obsessed that most still focus only on company-centric metrics. Companies that transform to adopt CPIs — and the customer-centric culture and practices that CPIs engender — will increasingly outperform competitors and be better optimized for accelerated, differentiated, and defensible growth.

Gene Cornfield is Global Lead for the High-Tech Industry at Accenture Interactive. He also leads Accenture's global cross-industry Chief Marketing Officer peer group.

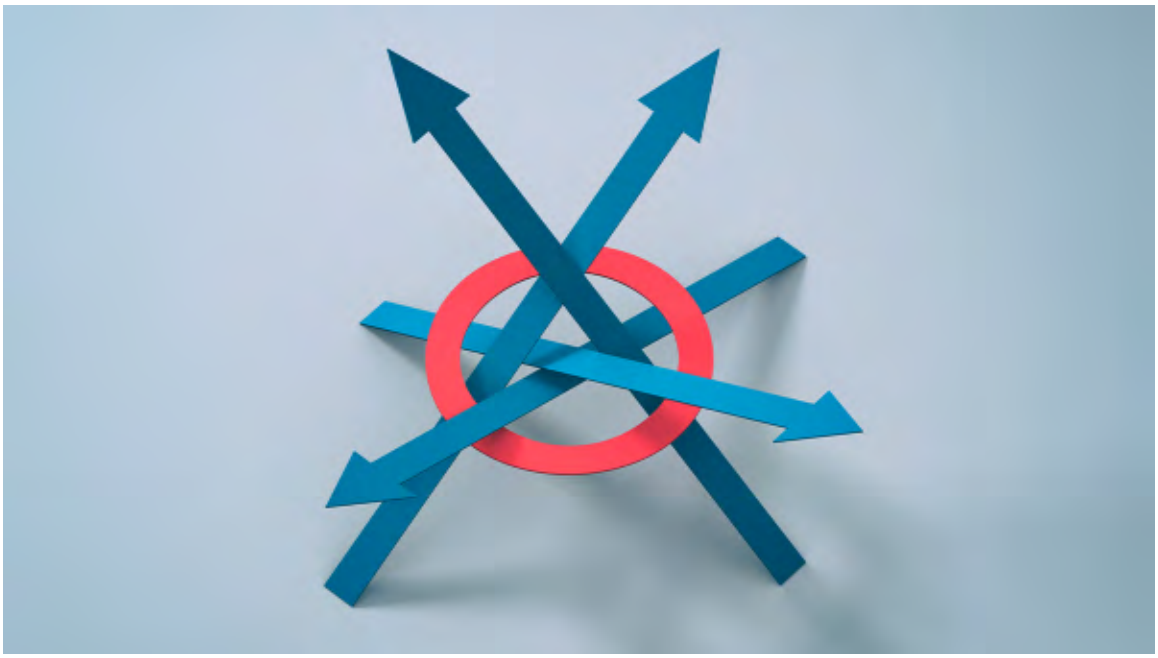
Harvard Business Review

PRODUCT DEVELOPMENT

Approach Your Data with a Product Mindset

by Jedd Davis, Dave Nussbaum and Kevin Troyanos

MAY 12, 2020



JORG GREUEL/GETTY IMAGES

According to an International Data Corporation (IDC) report, at least half of global GDP will be digitized by 2021. Unfortunately, as the report explains, “While most organizations are attempting [digital transformation], only a small percentage are getting it right.”

In most cases, the tech isn’t the problem. Many organizations’ failure to adapt to a highly digitized business landscape stems from their inability to convince employees to embrace data-driven decision-making. A NewVantage Partners survey found that 48% of executives cite “people challenges” as the foremost barrier to being more data-driven as an organization, compared to just

19% who cite "technology." As such, while a well-equipped analytics team is a necessary condition of using data to drive business value, organizations need to look beyond building a team of skilled data professionals with the latest analytics tools and technologies if they want to leverage data to improve their day-to-day operations.

To more actively contribute to the achievement of critical business outcomes, analytics teams should start viewing their random forests and neural networks through a product development lens. By bringing a product development approach to the planning and execution of analytics, organizations can scale isolated successes into the kind of sustained, organization-wide, data-driven decision-making that serves as the foundation of genuine digital transformation.

Using Analytics Solutions to Address Unmet Needs

Adoption is the key metric of product development, and as such, identifying — and addressing — end users' unmet needs is a central imperative of nearly every product development methodology. Acting on this imperative requires analytics professionals to take a step outside their comfort zones and assume more collaborative roles than they are accustomed to.

Instead of independently developing a new method of performance measurement or a new algorithm for automated customer segmentation, analytics professionals should *start* by asking their colleagues in each department, "What key business questions are you trying to answer?" and, "What outcomes are you trying to achieve?" A marketing team might be trying to solve for something different than an IT team, which might be trying to solve for something different than an executive team. Each of these teams is only going to adopt an analytics solution if it solves for its own unique problems, so an analytics team must conduct extensive stakeholder interviews to develop a clear understanding of the diversity of unmet needs across its organization.

Only *after* it has gathered all these unmet needs should an analytics team determine which datasets and analytical techniques it will use to develop effective point solutions. That said, agility and iterability are also central imperatives of product development, and analytics teams should treat them as such — nothing about data necessitates a plodding, epochal approach.

As an example, imagine you're a data professional at a major retailer that's trying to navigate the disruption caused by the COVID-19 pandemic. If you ask your Director of e-Commerce, "What key business questions are you trying to answer?" their answer is unlikely to involve insufficient traffic — the tragic circumstances of the pandemic have forced an inordinate number of shoppers online. They might, however, note that many circumstantial online shoppers have a low propensity for engaging with information-capture mechanisms like newsletters or "secret discount offers." As such, your directive might be to analyze these shoppers' online behaviors to figure out the best way for the e-commerce team to capture *some* information that could be used to increase the shoppers' customer lifetime value.

At the same time, your EVP of Store Sales is likely to offer a dramatically different answer to, "What key business questions are you trying to answer?" With most of their stores temporarily shuttered, their most pressing problems might be figuring out how to adjust their inventory management in a way that supports the sudden shift to e-commerce-only operations and how to minimize friction for traditionally brick-and-mortar shoppers as they transition to online shopping. These problems require entirely different analytics solutions than the Director of e-Commerce's problem.

Their differences notwithstanding, each of these analytics solutions must be prototyped and iterated on quickly to ensure the ongoing viability of your business. This is where applying the kind of agile product development methodology commonly used in software development becomes invaluable. In a high-pressure, high-volatility business situation like the one precipitated by COVID-19, you need to deliver a new information-capture mechanism to your Director of e-Commerce and new inventory management guidelines to your EVP of Store Sales in no more than a week or two. Your best bet is to develop *some sort* of analytics solutions to put into play immediately, observe how they're received by both internal and external stakeholders, and iterate as necessary.

Moving from Analytics Solutions to Analytics Products

The example above illustrates how a retailer might bring a product development approach to the creation of analytics *solutions*, but it doesn't cover the creation of full-fledged analytics *products*. Your new information-capture mechanism and inventory management guidelines might prove to be tremendously effective, but they're only point solutions — solutions to highly specific business problems.

Productization involves abstracting the underlying principles of successful point solutions until they can be used to solve an array of similar, but distinct, business problems. Here's how this might play out in the context of our example:

- After confirming the effectiveness of your point solutions, you consider how the analytical techniques at their core could be used to solve additional problems for the same teams and/or problems for other teams.
- This consideration leads to two discoveries:
  - The analytics at the root of your new information-capture mechanism could be tweaked and repurposed by your marketing team to drive loyalty program sign-ups.
  - The analytics at the root of your new inventory management guidelines could be tweaked and repurposed by your product planning team to reduce the number of items that sell poorly and end up on clearance.

As these kinds of discoveries accumulate, full-fledged analytics products begin to take shape — products that can do much of the legwork of dismantling organizational silos. Discoveries in the first vein might lead to a product that can be utilized to drive customer engagement in a wide variety of circumstances. Discoveries in the second vein might lead to a product that can be utilized for resource optimization across your company's departments — marketing, sales, technology, etc.

These products' settings and source data will vary depending on the context, but they're fundamentally consistent (though not necessarily entirely *static*) packages of analytics tools and techniques.

Getting Digital Transformation Right

Developing a robust portfolio of analytics products is an essential component of moving toward sustained, organization-wide, data-driven decision-making. But, as alluded to above, fostering the adoption of these products is equally essential — it's difficult to characterize a product no one uses as a success.

Adoption hinges not only on the extent to which analytics products are calibrated to address unmet needs, but on the way the products are packaged and presented. It's unusual to think about analytics as anything other than massive spreadsheets and incomprehensible algorithms, but true productization involves taking the target end users into account.

A brand manager at your retail company would struggle to identify — let alone use — an unnamed suite of abstracted analytics point solutions, but they could easily use your company's prepackaged, internally branded Customer Engagement Platform. Simply put, easily identifiable analytics products that offer out-of-the-box functionality in a variety of business contexts are the key to driving data-driven decision-making across an organization.

Ultimately, digital transformation isn't a matter of purchasing a 1,000-user license for a popular business intelligence or data visualization tool and encouraging employees to use it, nor is it a matter of giving an analytics team free rein to do whatever it wishes in a silo. It's a matter of identifying each team's unmet needs, developing analytics point solutions that address these needs, abstracting these solutions into analytics products that can be used to address additional needs down the line, and packaging these products in a way that drives adoption by stakeholders across the organization.

This product-oriented approach to analytics breaks down team silos through the Agile development process, promotes internal technological innovation, and maximizes the number of employees who actively use data to inform their day-to-day work. It could be deployed just as easily by a pharmacy retailer attempting to accommodate the skyrocketing demand driven by the COVID-19 pandemic as by an apparel retailer attempting to adapt to a sudden pivot to online-only operations. It could be used to see an organization through a time of crisis just as easily as it could be used to optimize operations in a time of calm. In short, irrespective of the contextual particulars, it lays the groundwork for organizations of all kinds to leverage data to achieve critical business outcomes.

Jedd Davis is the chief product officer at Publicis Health.

Dave Nussbaum is the chief data officer at Publicis Health.

Kevin Troyanos is head of analytics at Publicis Health.

FROM OUR SPONSOR

Digital transformation. The phrase has been used so freely that it can be hard to know what it really means—or its implications for your business. Simply put, it's using digital technology to change how businesses operate and interact with customers.

On one side of digital transformation are the forces acting on a business: lightning-fast data, emerging technologies, fierce competition and greater customer demands. And on the other, all the things an organization must do to transform itself in an increasingly digital world.

This includes applying new and existing technology in novel ways. Rethinking organizational and cultural structures. Reshaping the customer experience. And of course, managing vast amounts of complex data. When it all comes together—people, processes and technology—you can make split-second, intelligent decisions at scale.

The introduction of digital technologies has sparked new business models and revenue streams—where progress isn't measured in months or years, but in every single decision. Emerging technologies like cloud computing, IoT and AI accelerate transformation. And foundational technologies like data management and analytics are needed to analyze massive amounts of data.

It's worth noting that despite today's technological renaissance, the role of analytics hasn't changed. Its focus has been, and will continue to be, uncovering data-driven insights. Whether your data is on-premises, in a cloud or at the edge—analytics needs to be there. Think of analytics as a compass pointing in the right direction no matter how the technology landscape moves under your feet. Analytics has changed in one respect, however: It's more of a differentiator than ever. That's why it's essential to embed it into all your operations and decisions.

Of course, whether it's AI or analytics, organizations need the right processes in place to make the most of them. This includes robust data governance, cross-departmental and cross-functional collaboration, and a clear approach to moving forward with analytics. With the right processes in place, incremental changes can create big improvements to an organization's scalability and flexibility—not to mention bottom line.

Finally, having the right people—and fostering their skills—is perhaps the most important factor of all. You need to enable analytics skills at all tiers of your organization, especially in those that have the greatest domain knowledge. This is how you build a culture that is adaptable, forward-thinking and dedicated to digital transformation.

It's never too late to create the right analytical framework and strategy. Success comes when people, processes and technologies converge to create an environment where change occurs dynamically. This is what gives life to a digital business that delivers the products, services and experiences that customers value.

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Jennifer Chase
Senior VP, Worldwide Marketing

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