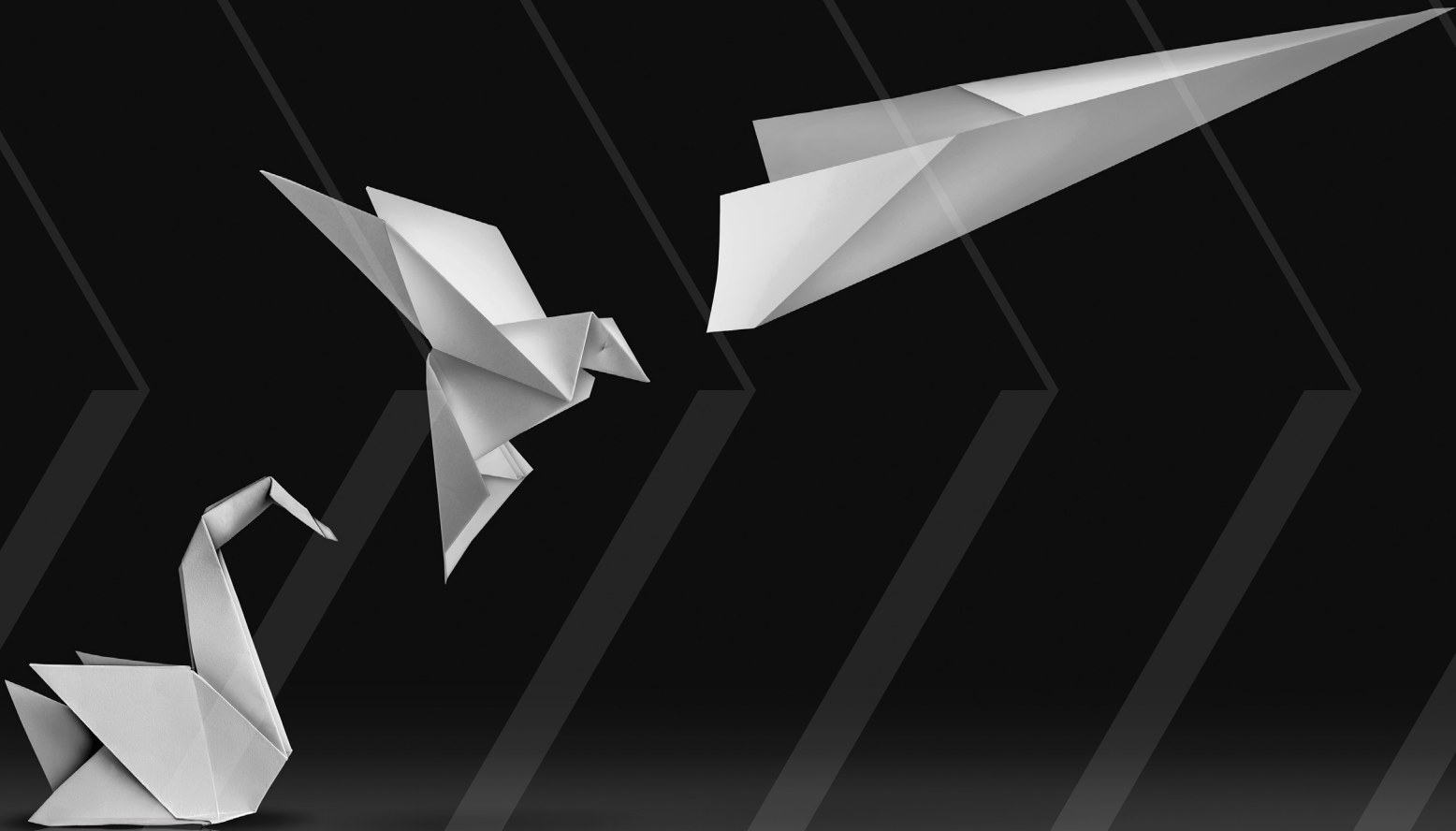# A LEADER'S GUIDE TO AI-DRIVEN TRANSFORMATION

# INTRODUCTION

Following his defeat by IBM's Deep Blue supercomputer in 1997, chess legend Garry Kasparov – considered by many to be the best chess player of all time – made a salient observation: "Any industry that isn't under pressure from technology is in stagnation."

Today, nearly every industry is feeling this pressure. Healthcare organizations need to figure out smarter ways to handle patient data while staying compliant with privacy regulations. Retailers who aren't using technology to connect with their customers face high churn rates. Manufacturers that don't change how they manage inventory and production processes risk falling behind more efficient competitors.

Artifical intelligence (AI) can help solve all these problems. Transforming an organization into an AI-driven innovation powerhouse is a big change, and even with such a significant upside, all changes carry risks; the status quo carries risks too, especially if it means missing out on new opportunities. Luckily, risk can be managed. It takes strong leaders to see an organization through periods of dramatic growth and change. Leaders who embrace and rally around AI's potential, identify and execute upon use cases, and enable their teams to do more than before will come out on top. How? Let's find out.

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# BEYOND BUZZWORDS: DEFINING AI AND DIGITAL TRANSFORMATION

Buzzy terms like "artificial intelligence" and "digital transformation (DX)" get slapped on all sorts of products and services to make them more alluring to innovation-minded leaders, which often dilutes their meaning. What do they really mean? And what practical applications can AI and digital transformation offer your business?

When done correctly, digital transformation lives up to its name – it transforms how your business operates. It means integrating technology into all areas of your organization, from processes to workflows to business offerings. AI can accelerate digital transformation by automating repetitive tasks, discerning business insights, and decreasing time to market.

A retailer can use AI to analyze customer sentiment based on raw text in social media comments, feedback surveys, and online reviews. The product team can then take those findings to propose improved, tailored products and offer them to customers based on their current desires.

As a leader, you should be aware of how your competition is leveraging AI in their digital transformation to satisfy customers and reinvent their businesses.

When you successfully implement an AI-driven digital transformation, you not only create a more interesting, more forward-thinking place to work, you also prevent your organization from being left in the dust.

# HOW AI CAN DRIVE DIGITAL TRANSFORMATION

There's no better time than right now to start planning (and executing!) your organization's digital transformation. Why? Even if you're not incorporating AI, we guarantee your competitors are. Every moment of delay means your more ambitious, more agile peers gain a longer head start. If that's not enough motivation, here are a few benefits you can expect from an effective DX.

### Increase Operational Efficiency
AI is to any routine task what the calculator was to the slide rule: faster, more accurate, and more efficient. A Capgemini study found that 78% of businesses that use AI will boost operational efficiency by more than 10%.

### Accelerate Innovation and Growth
Creating new apps and improving existing workflows is time-consuming and can create a logjam of innumerable tedious subtasks. AI can automate those in seconds, freeing up your creative thinkers to work on higher-level projects.

### Mitigate Risks
AI enables proactivity, allowing technology to analyze your data and detect potential fraud and compliance risks before they become a major problem. Don't have a reactive approach to risk management – let AI think ahead for you.

## Want to Get Started With AI, But Unsure of Where to Begin?

We've compiled 50 Ways to Impact Your Business with AI, which consists of 50 high-impact, cross industry data science use cases from our customers to inspire you to make your mark with AI.

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# HOW TO CHOOSE THE MOST EFFECTIVE LEADER

**(Hint: It Might Not Be You)**

The hardest part of digital transformation isn't selecting and implementing the right technology, it's figuring out who's going to spearhead the initiative.

The best leader for your organization's AI-driven transformation might not be as obvious as you'd think. It's not always the head of IT, the CIO, or even anyone in the C-suite, for that matter. It could be someone who's on the shop floor, dealing with the ins and outs of daily operations.

Whatever their title, this person needs to be a digital transformation champion who is wholeheartedly committed to the initiative. They need to understand the biggest pain points across the organization, generate ideas for solving them, and constantly drive the initiative forward.

Whether you choose someone at the C-level or the manager level, top-down leadership is essential. The DX leader should be a phenomenal delegator who develops a comprehensive vision and distributes it across the organization with passion, getting everyone excited and invested in what they're working on (and what they're working toward).

An AI-driven digital transformation isn't just another task to cross off your to-do list, it's an all-encompassing, fundamental upgrade – and leadership needs to provide positive, inspiring energy to power this shift.

# QUALITIES NEEDED IN A DIGITAL TRANSFORMATION LEADER

Have you ever heard of celebrities having the "it" factor? Your DX leader should have that, too. We've narrowed it down to a few must-have qualities to help you pinpoint who in your organization will make the best leader.

### Respect
People are more willing to follow and listen to someone they respect and who respects them in turn. Your company's DX leader must have good rapport with different team members across departments, rather than just those they work with daily. Ask yourself: When this person speaks, do others listen because they feel they have to, or because they care about and are invested in what the leader has to say?

### Project Management
Understanding the organization's operations across departments is key since even minor transformation efforts can have major ripple effects. Does your candidate have a thorough understanding of the entire organizational landscape, and are they able to handle multiple detailed projects at once?

### Accountability
A DX leader needs to commit to holding people accountable – even (and especially) when they fall short. Accountability doesn't always mean bad news, though, and leaders should also spotlight and praise team members that produce amazing results. Regardless, a leader must be able to put their personal feelings aside and offer unbiased, professional feedback to everyone involved.

### Mentorship
What are your team members' strengths and weaknesses? What expertise and experience can they draw upon to make the transformation efforts successful? Your DX leader should know the answer to these questions and use them to coach people and support them as they take on new challenges – thus setting them up for sustained success.

### Motivation
Your DX initiative's champion needs to motivate the team to continue when things are going well and reassure them when things aren't going as planned. As a leader, you're in charge of rallying the team and getting them invested in bringing the organization to a digitized, AI-powered future.

### Focus
Let's be real – a digital transformation is anything but straightforward. There are a lot of moving parts, and executing an AI-driven DX requires having the focus to prioritize what's most important, keep track of all the balls in the air, and push forward despite unavoidable challenges. Make sure your DX leader has the drive to get it done.

# THE DAY-TO-DAY OF A DX LEADER

Okay, so you've identified the perfect person to lead your AI-driven transformation initiative. They have great leadership skills, conviction, and previous experience – hey, that person might even be you. But what does a DX leader do all day? Like many hands-on leaders, you'll be playing many roles. Here are a few key tasks you might be expected to perform.

### Provide Effective Enablement, Not Just "Training"

We've all been to various forms of workplace training, whether for new business processes or specific tools and technologies. But training that begins and ends in the classroom rarely transforms a workforce. To learn an entirely new skill or discipline takes practice, and your enablement efforts should layer training in with real supervised practice and mentorship. You can't teach someone how to drive until you put them behind the wheel of a car, and the same goes for teaching them to effectively leverage AI in their day-to-day job function.

### Ensure Access to Resources

The people in your organization are more than capable of producing excellent results – if they have the resources they need. A leader needs to make sure employees have access to AI development tools, cloud-based testing environments, virtual machines, and whatever else they need to be successful.

### Allocate Appropriate Funds

Digital transformation impacts the entire business, and the costs involved with implementing, testing, and rolling out new technology iterations can test budgetary limits. Your leader needs to carefully navigate this landscape and allocate resources in ways that will ensure success.

### Check In Frequently

Meeting with key players, whether they're fellow leaders or technical team members, is essential. Getting their feedback, listening to concerns, and providing appropriate solutions not only ensures they'll continue to be happy, it's also a great way to glean insights about which changes are working and which aren't.

### Update and Track Progress

How are things going? Good or...not so good? How can you tell? As a leader, you'll need metrics to track progress, targets to hit, and a concise way to report your findings to the C-suite and other stakeholders.

### Looking for a Solution That Supports Users' Upskilling and Growth?

**Altair RapidMiner Academy** provides multiple on-demand role-based courses and certifications to track and improve your team's data science and machine learning skills.

# LEARN BY EXAMPLE: AI-DRIVEN TRANSFORMATION CASE STUDIES

As Kim Stevenson, the CIO of Intel, said, "We're only at the very, very beginning of this next generation of computing, and I think that every industry leader will be the one that transforms first. I don't care what industry you're talking about."

Her message is clear: Start now. However, with so many other organizations embarking on their digital transformation journey, it's the perfect opportunity to learn from some great (and not-so-great) examples of DX. In the following pages, we've assembled both the hits and misses of recent DX initiatives that will help you avoid these projects' failures and emulate their successes.

### Miss: Haribo
**Supply Chain Reaction**

In 2018, candy producer Haribo underwent a major SAP ERP implementation to streamline its production and modernize its goods management system. However, the results were anything but sweet. When they went live with the implementation, they discovered that some of their business processes were incompatible with the software. Soon after launch, they encountered supply chain issues. Production stalled, and as a result, deliveries and sales declined.

**Lesson:** Identify all affected systems and anticipate the domino effects of any change. **Being detail-oriented is key in digital transformation. So is thinking two steps ahead.**

One way to mitigate this risk is to build an org chart that shows how all components of your upcoming transformation are related to one another – from production to sales – and ensure all teams involved are in communication with one another. By doing so, you can avoid ending up in a sticky situation like this one.

### Hit: Microsoft
**Empower Your People**

Microsoft's digital transformation began back in 2014 when they embarked on a mission to re-engage their end users. On day one of his appointment as DX leader, Satya Nadella announced that, from then on, the culture at Microsoft would be "one of collaboration and finding mutually profitable solutions." He developed a customer-focused plan with actionable steps for success, which then inspired staff, from designers to marketers to technicians, to deliver. The result was a reinvigorated company culture, an improved product suite, and a $1.5 trillion gain in market capitalization.

**Lesson:** Strong leaders promote collaboration and inspiration. **Being detail-oriented is key in digital transformation. So is thinking two steps ahead.**

Satya Nadella and Microsoft sought to create technologies that improved their customers' lives. Rather than only putting the needs of the end-users first, however, Nadella also prioritized the needs of Microsoft's staff. His emphasis on collaboration led to a huge boost to Microsoft's balance sheet and earned him a promotion to CEO in 2014.

### Miss: Amazon

**Repeating Past Mistakes**

Automation had long been Amazon's biggest advantage over slower-moving competitors, so building an AI assistant to its recruiting efforts seemed like an obvious choice. After working on the program for over a year, it wasn't long into the automated screener's deployment in 2015 that a major issue became apparent: The tool was biased against women. The recruiting tool was trained on historical data, which reflected the tech industry's traditional overrepresentation of male workers. But this didn't help Amazon build the more diverse workforce it wanted for its future, and after tinkering (unsuccessfully) with the tool, Amazon abandoned it in 2017.

**Lesson:** Be crystal-clear on your AI's strengths, limitations, and biases. **Especially with machine learning, a model trained on past performance will yield more of the same.**

Like much of the tech sphere, Amazon had long been a mostly male organization. An AI model trained on historical hiring data learned that preference and repeated it – which is what a model is supposed to do, but obviously not what Amazon wanted it to do. It's key that you understand what your AI can (and can't) do, which means understanding how it was trained and on what dataset. That way, you can account for (and hopefully correct) any shortfalls or biases. Innovating means breaking with tradition. Do it wisely.

### Hit: SAPPI

**Dream Big and Stay Accountable**

In 2020, Sappi, a manufacturer known for paper and pulp, made a concerted effort to promote efficiency through machine learning and digitization. Sappi's leadership team leveraged predictive maintenance, root cause analysis, and digital twin technology to improve their operations – as such, they're currently increasing pulp yield in their facilities to save up to $1.8 million per year.

In addition to investing in Altair RapidMiner's data science enablement program and upskilling their team, Sappi's board went on to publish their progress and plans for DX in their 2020 Group Sustainability Report. Investing in their workforce and holding leadership accountable with transparent reporting are integral to getting internal buy-in, which is necessary for the success of large-scale digital transformation.

**Lesson:** See the big picture and communicate it transparently. **Break up organizational inertia and hesitancy with widespread buy-in.**

Sappi's leadership team isn't just pushing innovation across their company, they're also making future use cases (and progress toward them) available to the public. This makes them accountable to their employees to meet their goals, or to explain what went wrong if they don't. This is proof that Sappi's leaders are committed to transforming processes across the organization with AI the right way.

## Miss: Walmart

### Unclear Advantage

To deliver on Walmart's promise of everyday low prices, the retailer has championed automation to cut costs. After a multi-year effort to build computer vision-enabled robots to scan shelves and update inventory databases, Walmart scrapped the project in 2020.

Why? The retail giant found a simpler, easier-to-deploy solution for very nearly the same cost: Human store associates scanning out-of-stock items as they performed their usual duties, especially gathering online orders. Not only did the stocking robots not outperform humans, but Walmart's customers also didn't like encountering them in-store (unlike robot floor scrubbers, which have been quite successful).

Originally planned for 1,000 of Walmart's 4,700 stores, the company pulled the plug after only 500 deployments.

**Lesson:** Make sure the tech is up to the task.
**And maybe run a smaller-scale test, just to be sure.**

AI, machine learning, and similar tech can do incredible things - but not everything. Walmart found that out the hard way. Computer vision's strength is testing millions or billions of samples of the same type against a reference, like finding one burned corn flake on an assembly line or a clump of cancerous cells in thousands of healthy ones. Comparing many types against many references? Humans can still do that better – and they can multitask.

What kept this experiment from total catastrophe was its small size. If possible, find a way to validate proof-of-concept, and let the robots do what they're best at: repetitive, laborious, and/or dangerous work humans don't want.

## Hit: Chipotle

### Make Fast Food Faster

When Chipotle's CEO Brian Niccol was appointed in 2018, the franchise was in a dire spot. He knew he had to turn things around, so he quickly developed and deployed a "digital change program" to make their app work better for customers who wanted to save time by ordering ahead. They also started a rewards program that now boasts more than 22 million members. Chipotle's app is convenient for customers, and the data it collects makes understanding their behaviors simple. In just 17 months, their stock price rose 152%.

**Lesson:** Act on the areas that will have the greatest impact first.
**The tools you need might be right in front of you.**

Making your customers' lives easier is essential, especially for restaurants and other organizations in the service industry. By finding many more uses for the customer data Chipotle was already collecting, Niccol was able to make a quick impact for burrito-holders and stockholders alike.

Niccol's spot-on investment in Chipotle's app and focus on maximizing results with what resources the company already had was a major factor in turning the business around.

# COMMIT TO LEADING A WINNING INITIATIVE

An AI-driven digital transformation might not be easy, but when done right, it will pay dividends for years to come.

Leadership is just the start of a successful transformation. Success depends on selecting leaders who promote and encourage upskilling their employees, who then become more committed to the initiatives and day-to-day work. After that, there's a natural shift to a sustainable, long-term, data-driven culture. It's all connected!

By identifying your objectives, choosing the most effective leadership, and learning from others' mistakes and victories, you can empower a winning AI-driven digital transformation.

Altair is a global leader in computational science and artificial intelligence (AI) that provides software and cloud solutions in simulation, high-performance computing (HPC), data analytics, and AI. Altair enables organizations across all industries to compete more effectively and drive smarter decisions in an increasingly connected world – all while creating a greener, more sustainable future.

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