Digital Operations is a race to find new finish lines

To enter the race, first you have to change the way you run

Analysts predict that in 2020, enterprise software spending will reach $507 billion, a 10.9% increase from 2019.

It's all too easy to see the drive to implement digital technologies as an arms race. But in fact the need to enhance digital operations is more about agility than public perception (as crucial as that may be). How one company transforms their digital operations and ensures they can continue evolving will look very different from another—even a direct competitor.

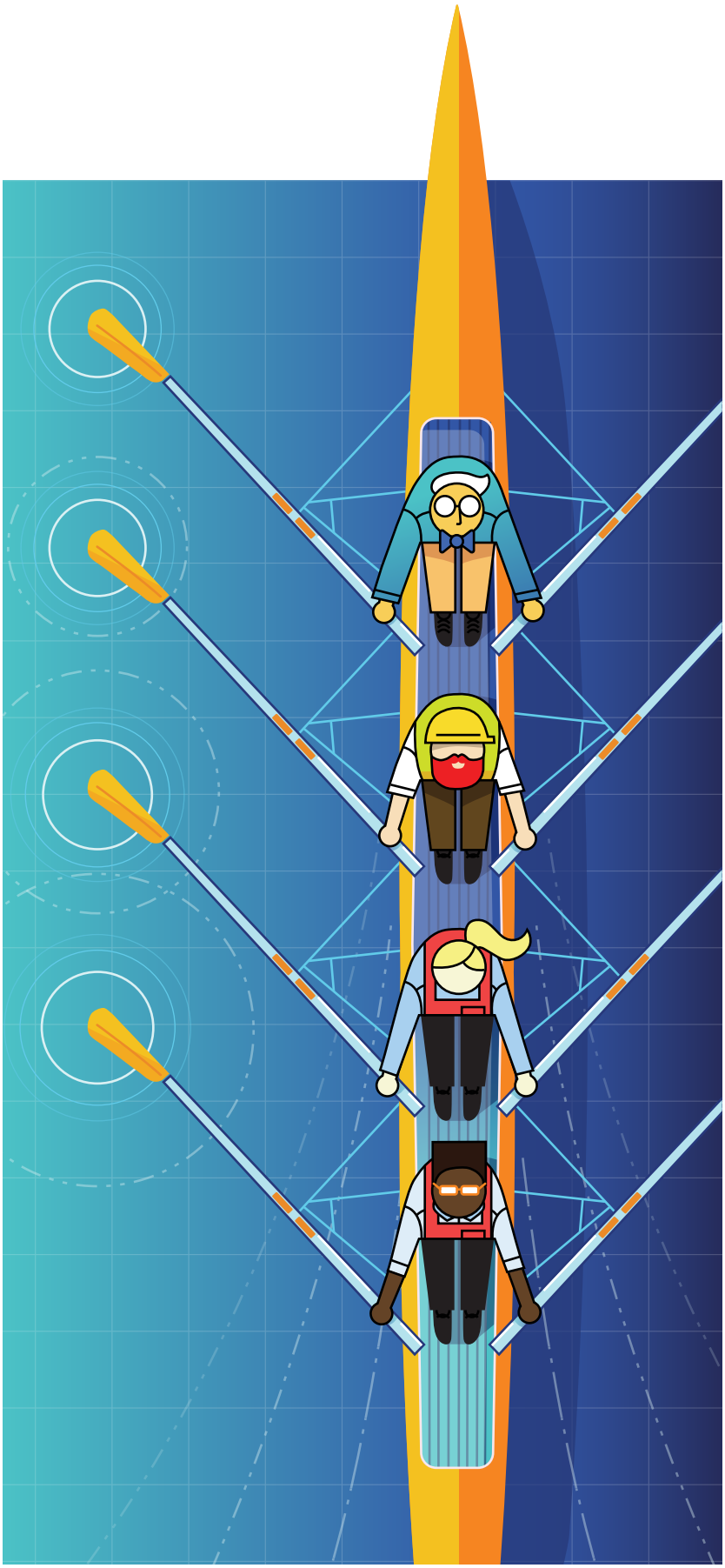
Agility allows retailers to not only find new spaces to monetize the consumer relationship but rapidly act on these new areas of opportunity.

Who's in the express lane?

Lego is one of those companies whose brand, while immensely loyal to its origins, has managed to entirely reinvent its offerings. Once purely a product company, it is now very much a media company, complete with its own free streaming service. Lego makes use of deep knowledge around customer desire in the name of agile innovation.

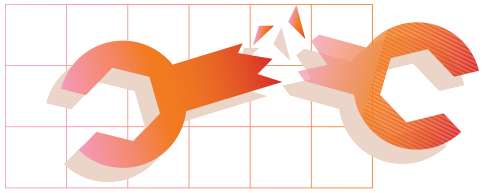
Kroger is not alone in innovating the ways consumers shop, but they've made significant gains by using data to create new technology platforms that help customers with delivery, curbside pickup, and an overall better experience in-store. Among their innovations are digital shelf labels linked to IoT that allow them to instantly change product pricing.

Not to be outdone, **Walmart** has also keyed in on speed when it comes to product identification. At their Walmart Supercenter in Salem, New Hampshire, they've unveiled the "Alphabot," a piece of technology that uses multiple autonomous carts to pick, pack, and deliver grocery items faster than ever.



What keeps some companies lagging behind?

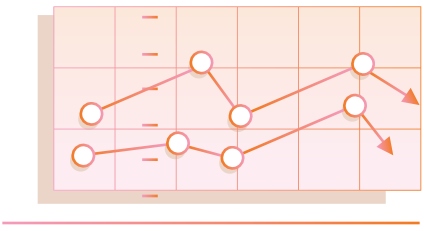
The overarching theme in companies' struggles to move quickly and flexibly is a lack of awareness when it comes to cloud capabilities. Much of the original promise of cloud has not been realized because of:



1. Outdated legacy IT departments

The bulk of investment in legacy IT systems goes to maintenance, not innovation, and these systems aren't designed to be updated rapidly. But while the cloud is a powerful aid in getting these older systems to integrate new applications and technologies, the cost of doing so can be seen (rightfully or not) as prohibitive.

Frustrated with the roadblocks one can be up against with legacy IT systems or lack of funding and talent, business leaders are prone to going after technology solutions on their own without IT involvement. This "rogue" approach, sometimes called Shadow IT, can cause issues later on when IT is asked to help scale or integrate that business-approved solution.



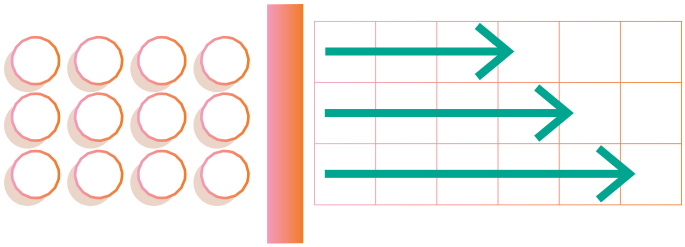
2. Razor-tight margins

Especially in retail and consumer goods, new investments can be hard to rationalize and execute. Thin margins often have to be supplemented by savings in other areas of the business, which means trimming budgets elsewhere at the risk of negative impact on the business as a whole.

Amazon's great magic trick has been to stir excitement in the investment community for dramatic technological innovation without immediate dividends. Their scenario is a rare one.

To fund innovation, you have to reduce the cost of computing. This is an area where IBM has a track record of doing very well, and the way we do that is automation. If a server goes down in a retail outlet, for example, we have a script we can run to automatically restart it, without any need for manual human input.

Cloud can reduce costs, but there are some watchouts, including "vendor lock-in," wherein a vendor's operational strengths and enhancements become proprietary extensions. This can increase complexity, costs, and negatively impact organizational efficiency.

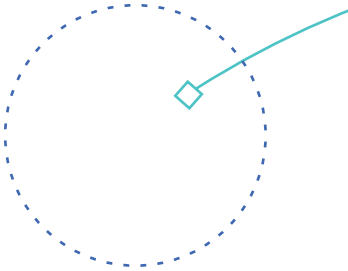


3. Scalability

Portability, or workload mobility, is a key value proposition of Cloud Delivery. While there's been progress on the development side, the operational side of delivery can be almost blindly loyal to cloud-specific tools and processes. IT Organizations have typically fallen on hiring talent that's highly specialized in vendor-specific tools.

In order for success, everything must scale seamlessly—not just code deployment but all of the management, monitoring, and operational actions involved:

"There's a romantic notion that if you write something to run on the container, it's inherently portable. That's just not true. At IBM our Cloud Pak strategy involves something called common services, which allows you to develop an application ONCE for the cloud environment and expect it to run in ANY other cloud environment." —Rob Lamb, VP Platform and Emerging Technologies, IBM



How can IBM help you pick up the pace?

Partnering with IBM enables you to find the right transformation strategy for your digital operations—a solution that is open, intelligent, secure, and consumable for development AND operations across all clouds. How?

1. Modernize Apps

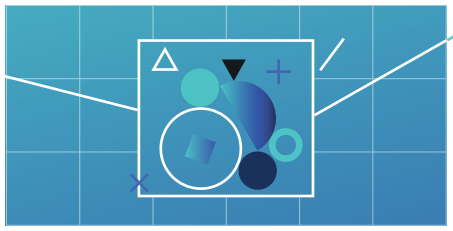
The Cloud Pak for Applications is a core part of IBM's offerings, allowing for swift, curated modernization and migration of apps for different cloud environments. Included is a powerful tool called Transformation Advisor that can diagnose a client's legacy application, understand the structure of that application, and clearly see everything that application does. Then, IBM can do one of three things:

a. Produce a report that approves the desired cloud environment and how the application functions. Then IBM simply presses a button to automatically containerize the application.

b. Point to a couple things that should be changed (usually not many), how they should be changed, and why. IBM then guides the developer on what they have to do and goes through the process of containerizing the app.

c. Acknowledge affinities that the application has with the platform it's currently running on and recommend against modernization. The best thing for this application is probably to leave it where it is.

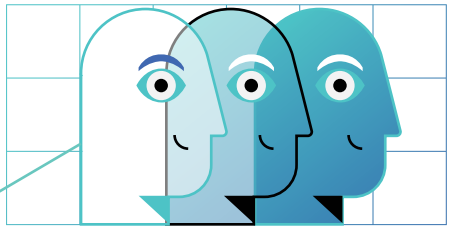
From there, it's very easy for clients to look at a catalogue of APIs and find one that will help enhance the application—say, an API that enables real-time fraud detection for a credit card app.



2. Streamline Dev Ops

Developers value open source technologies, and they value choice. IBM provides what's called an "opinionated" set of tools that developers can choose from, offering not only choice but guidance in a complex world of options.

We analyze the application, automate the containerization, and then once things are containerized we provide clients with a great set of APIs to help them enrich the application. We enable developers to say, "I'm using this IED, this framework, this is the chain I want," and we will then give them the flexibility to make these open choices while taking the burden—and it is a burden—of integrating it all together.



3. Eliminate siloed structures and ways of working

IBM emphasizes common dashboarding that brings together executives, project managers, development managers, developers, and people responsible for managing the code and operations.

To Lamb's mind, *"by making sure that operations people are involved in the development period, building in monitoring agents and security agents during the development process, we dissolve the solid lines between what a developer is and what an operations person is. Putting the responsibility on the developer for how you manage the code in operations changes how you write the code to begin with."*

Run a steady course with hybrid computing

There are some use cases in hybrid computing where it's essential that applications are available 24/7. Even small network outages of minutes per week can have a material business impact. There are two major use cases for Edge Computing:

1. Performance and Resiliency

Edge computing enhances resiliency and performance for businesses with distributed locations. If the network is down, your application continues to perform at the branch, and the increased performance allows for customer experience capabilities that wouldn't be possible without it.

For example, let's say McDonald's sees a bus of students coming in. Their onsite systems automatically know to tell the employees to drop more fries in the fryer, grill more patties, ensure the milkshake machine is primed to deliver, and etc.

In a case where individual locations are calling on the cloud to access a person's data, algorithms to curate an experience in milliseconds currently can't be done because of some of the latency involved. Edge computing is the solve.

2. IoT devices and AI

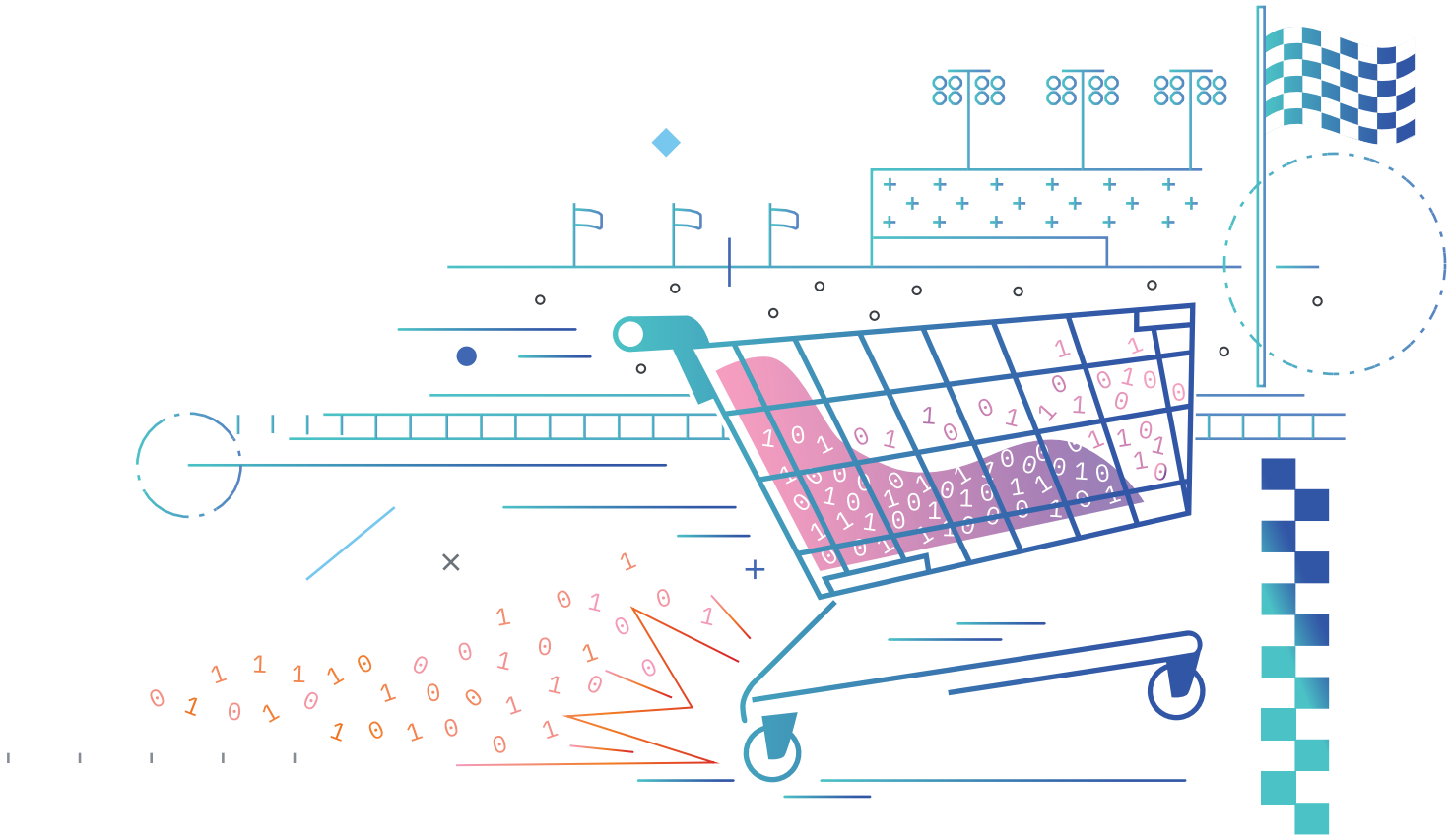
Imagine you have a manufacturing line that requires the creation of zippers at scale. At the moment, you have a human determining which ones are up to par and which have defects. By shifting this task to an IoT sensor at the location of manufacture, you can determine at pace which is defective.

Retailers have to worry about tens of thousands of end points. IBM has a policy-based capability that allows you to instantly push out updates to all manner of branches and locations with the click of a button. This is a core part of IBM's edge solution.

Conclusion: the faster you run, the more you define your own race

Agility lets companies adjust course based on consumer demand and preference, not only running faster as a whole but empowering employees to move faster in their own right. When humans can work better and smarter, they can focus on more high-value tasks.

With innovation comes new business models and new brand propositions. In effect, the race track is ever-shifting. It's where you make it.



What are IBM's key differentiators?

- Breadth of industry and technical expertise, with best-in-class selection of technology platforms
- Powerful track record of success in automation
- Deep experience in systems integration
- Breakthrough tools to modernize your existing IT infrastructure, thanks to Cloud Pak
- Tremendous mobility for future applications

Ready to talk? Get a free evaluation and consultation on your digital operations from an IBM expert. Contact Kelly Capo at kacapo@us.ibm.com or 1-972-906-4483 to schedule today.