



What To Do In Times of Uncertainty

Why intelligent investment in digital transformation holds the key to surviving and thriving

eBook

 **KEYSIGHT**

INTRODUCTION

A recession has been on the horizon for a while and nearly 60% of economists say there's more than a 50% chance of a downturn in the next 12 months.¹ Recession is part of the natural cycle of an economy and, by some estimates, we're overdue one by at least five years.² But the fact it's taking longer to arrive than expected is no reason for complacency. Indeed, history tells us that the key to survival is to take proactive action now rather than reactive action later.

A landmark Harvard Business Review study³ analyzed the strategy selection and corporate performance of 4,700 companies before, during and after three global recessions that happened between 1980 and 2002.

The study found 17% of companies didn't survive and around 80% hadn't regained their prerecession growth rates for sales and profits three years after a recession.

But around 9% flourished - outperforming rivals in their industry by at least 10% in terms of sales and profits growth.

So what did the winners do differently?

They balanced cutting costs to survive today while also investing for growth tomorrow.

One of the ways they achieved this was through **digital transformation**.⁴

There are several reasons why digital transformation holds the key to success when you're looking at recession proofing your company:

- It has a lower than usual opportunity cost (that is, because you aren't operating at maximum capacity you have the human and financial resources to focus on the successful rollout of IT projects).
- It gives you the transparency, efficiency, and flexibility that's needed more than ever in a recession.
- And by automating tasks and enabling data-driven decision-making, it helps with intelligent cost cutting.

Of course, there's nothing new in all this - you'll have read about the importance of digital transformation countless times.

¹NABE Outlook Survey: NABE Panel Expresses Disparate Views Regarding U.S. Economic Outlook

²Bain & Company: Using the Next Recession to Change the Game

³Harvard Business Review: Roaring Out of Recession

⁴Harvard Business Review: How to Survive a Recession and Thrive Afterward

The real question is: where best to focus digital transformation efforts?

Get the focus right and you'll secure wins and thrive post-recession. Get it wrong and you may not.

In this Ebook we'll argue your first area of focus for digital transformation should be software test automation.

Why?

Because it helps you secure more of the wins you want. It will help you:

- Solve technical debt, driving efficiency
- Consolidate your tool stack, cutting costs.
- Improve your customer (and employee) experience, increasing competitiveness

And it get you ready to scale when the time is right.

When it comes to choosing the right software test automation tool, look at Keysight's Eggplant.

Eggplant Software Test Automation already helps more than 650 enterprise customers in over 30 countries test, monitor and analyze their end-to-end customer experience to continuously improve their business outcomes.

It enhances the quality, responsiveness, and performance of software applications across different interfaces, platforms, browsers, and devices - including mobile, IoT, and desktop - in agile development operations (DevOps) and data environments.

In doing so, it helps you surpass competitors, boost productivity, and delight customers.

Work Smarter and Win Big With Keysight Eggplant Test Automation



50% Cut test case setup and deployment time in half



3X Run functional tests three times faster



19M Run 19million QA tests per year on your online retail sites with ease



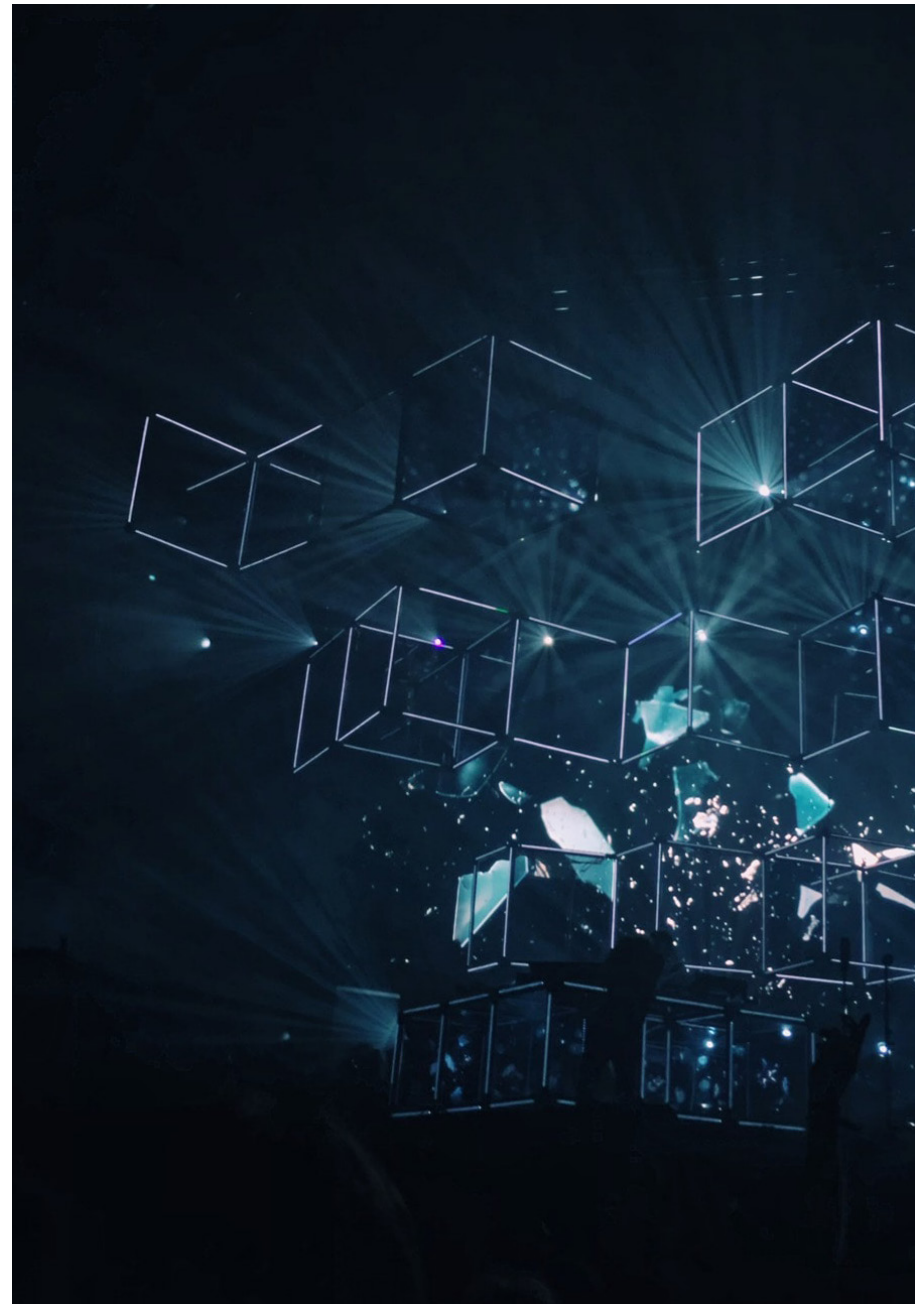
75% Automate as much as 75% of regression testing

**Keysight's Eggplant was named a leader
in the Forrester Wave for Continuous
Automation Testing Platforms, Q4 2022.**

Eggplant received the highest score possible in 12 criteria, including:

- Automation execution/continuous testing
- Testing journey
- Reporting, analytics, and quality insights
- Product vision
- Execution roadmap
- Commercial model

Read on to discover why software test automation is the digital transformation play you should be making right now - and why Eggplant is the tool you need.



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CHAPTER 1

Managing Technical Debt



CHAPTER 1

In the real world technical debt is inevitable. “Build now, fix later” is embedded in our process - we have to make compromises to move a project forward. of course, every compromise contributes to technical debt. It’s a fact of life, but not one without consequences. Technical debt leads to increased maintenance costs, and longer development cycles. It’s something we’re conditioned to accept - until we hit recessionary headwinds.

In a recession, resources are constrained, and every action is assessed for its contribution to the bottom line.

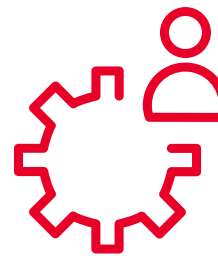
When you’re caught up fighting fires caused by technical debt, you have a reduced ability to respond to the changing market conditions a recession brings.

Ultimately, technical debt hampers your organization’s competitiveness and therefore its ability to navigate a recession.

In other words when a recession looms, minimizing and managing technical debt isn’t an option - it’s a necessity.

But given the complexity of a modern organization’s systems, most application software testing tools don’t have the capacity or ability to scale and automate functional testing to the level developers need. Most UI test automation tools require constant updating of page object models or test scripts, which simply shifts a lot of the effort testing requires to elsewhere in the process. Equivalence class partitioning goes some way to reducing the number of test cases needed, but all-too-often it depends on unreliable data.

So where should you look to get the firepower you need? The answer is Keysight’s Eggplant.



18%

of technology execs say their biggest software challenge is technical debt taking energy away from innovation⁵

⁵Forrester: [Address Technical Debt To Mobilize Innovation](#)

Reduce Technical Debt with Eggplant

Eggplant uses a single digital twin model to test complex systems, workflows or user journeys across platforms, while the model-based testing tools help predict how your application will behave under different conditions, allowing for more accurate and reliable releases.

With Eggplants model-based testing, you:

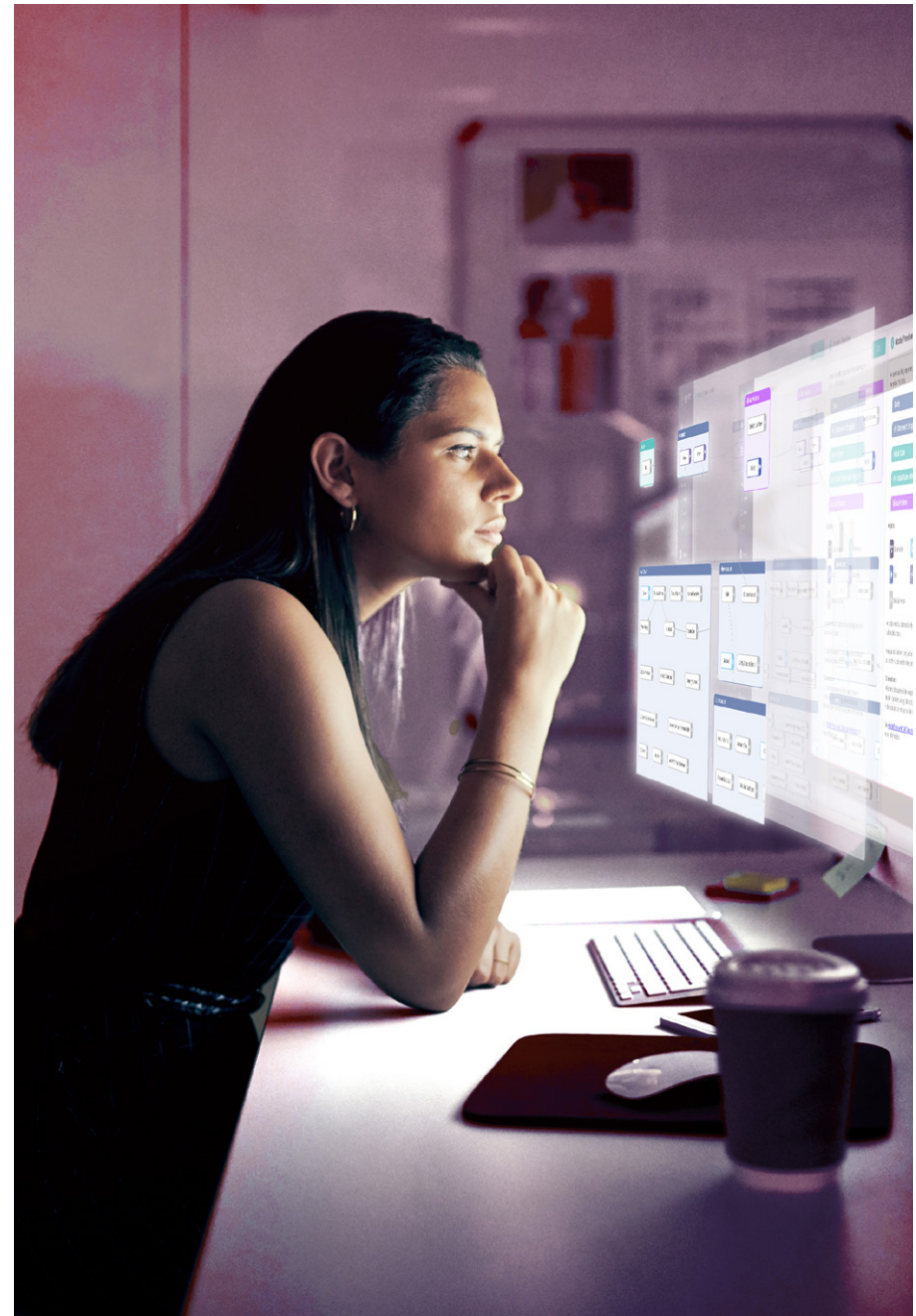
- Reduce maintenance costs with scriptless testing modeling.
- Streamline development with low code, UI-driven testing tools.
- Produce actionable insights with AI-powered exploratory testing.
- Achieve full test coverage on any device, platform or OS, and any UI layer.

It makes it a powerful tool for understanding the impact of technical debt and helping to prioritize managing it, allowing you to deliver a best-in-class performance and user experience.

Explore in more detail

This on demand webinar discusses how Staples used Eggplant to modernize its legacy POS systems, automate testing of new pin pads and payment processing, and improve back-end transactions by removing technical debt.

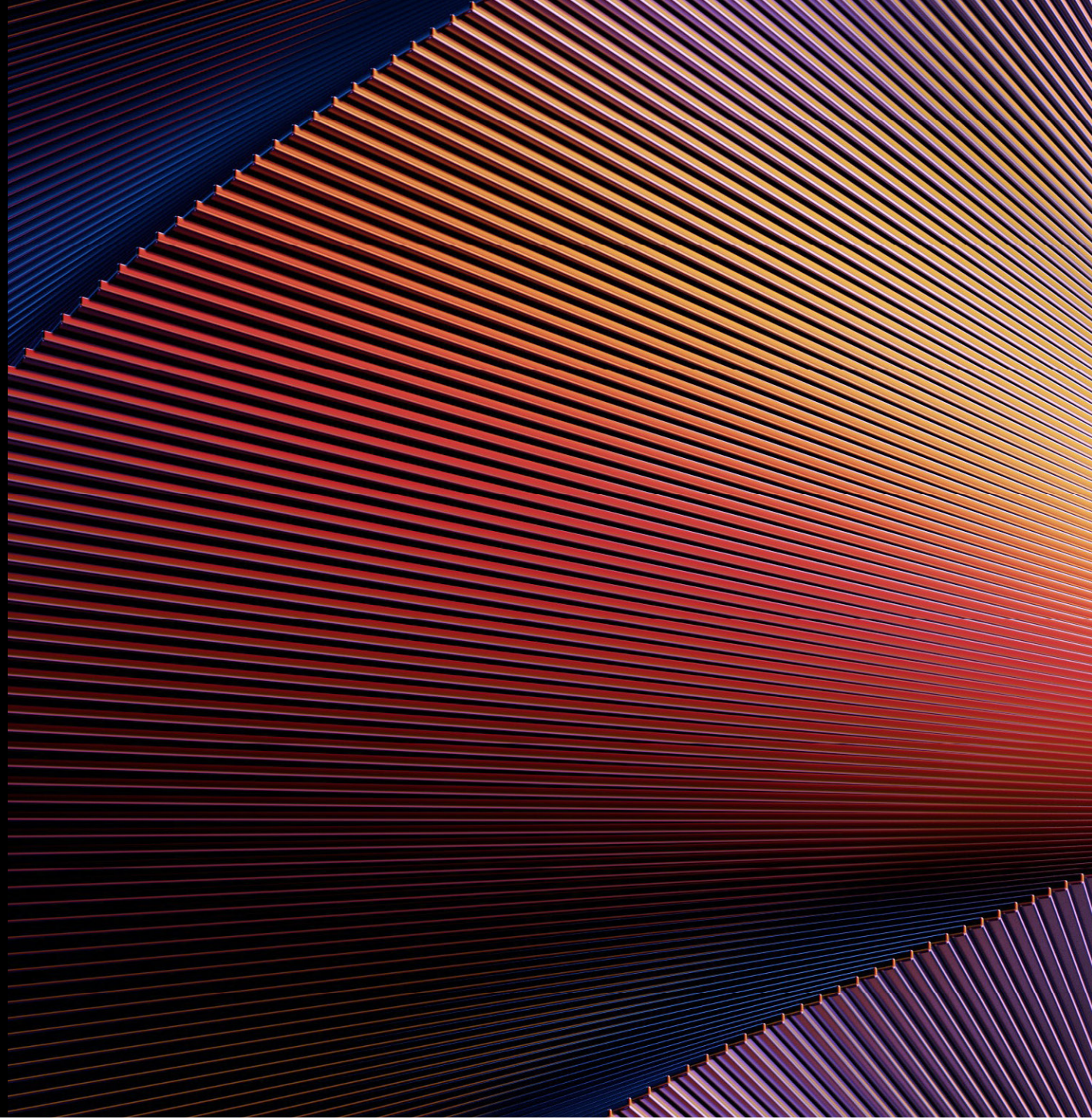
[Retail POS Transformation – A Test Strategy for Success](#)





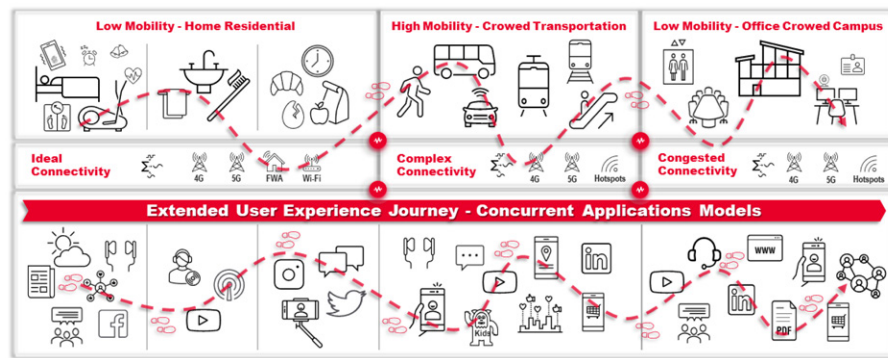
CHAPTER 2

Tool Reduction



CHAPTER 2

Customers - and employees - want a seamless experience across all environments and on all devices. In retail, this omnichannel experience is expected - it's ranked as a 'must have' by consumers.⁶ In B2B, it's a differentiator. B2B companies that provide the best omnichannel experience are improving their market share by at least 10% annually.⁷ In other words, whichever sector you're operating in, it's something you need to be conscious of. But it isn't just enough to consider the omnichannel experience if you want to set yourself apart.



The reality of the omnichannel experience. Does your testing regime account for this reality?

You also need to consider the omnichannel experience. How congested is the network? Is the user on 3G, 4G or 5G? What are the experiences on each of these? What is the experience when a user switches between environments as they move from home to the train to the office?

To test all these variables requires a strategic approach. Yet the reality for many organizations is a process that involves testing each element or situation independently. For example, you test the user experience on 3G and on 4G; you don't test what happens when the user switches between 3G and 4G. Testing responsibilities may sit in different teams too. For example, testing the returns process when consumers self-serve may be handled by a different team than the one that tests the returns system when it's handled by the customer service team on the phone.

⁶Retail Dive: Researchers: Omnichannel is now a baseline consumer expectation

⁷McKinsey & Company: B2B Pulse—Global Edition The multiplier effect: How B2B winners grow

This disparate approach has several cost issues, which will be a cause for concern in a recessionary environment. You might have different tools for testing different parts of your systems; you might have multiple versions of tools running across multiple departments. When you add up the costs of the licenses, training requirements, and maintenance, there's a bloat that could likely be cut as part of cost-saving measures.

But beyond the simple factor of cost, when there's no strategic oversight, there are inevitably blind spots and data silos, with no clear understanding of how the omnichannel experience is really being monitored. The result is an uneven customer experience that ultimately affects the bottom line.

On the other hand, when you take a strategic view and work with a tool that gives you strategic testing capabilities, you cut the bloat. More than that, you give yourself the competitive advantage and long-term sustainability you need.

The tool you need is Keysight's Eggplant.



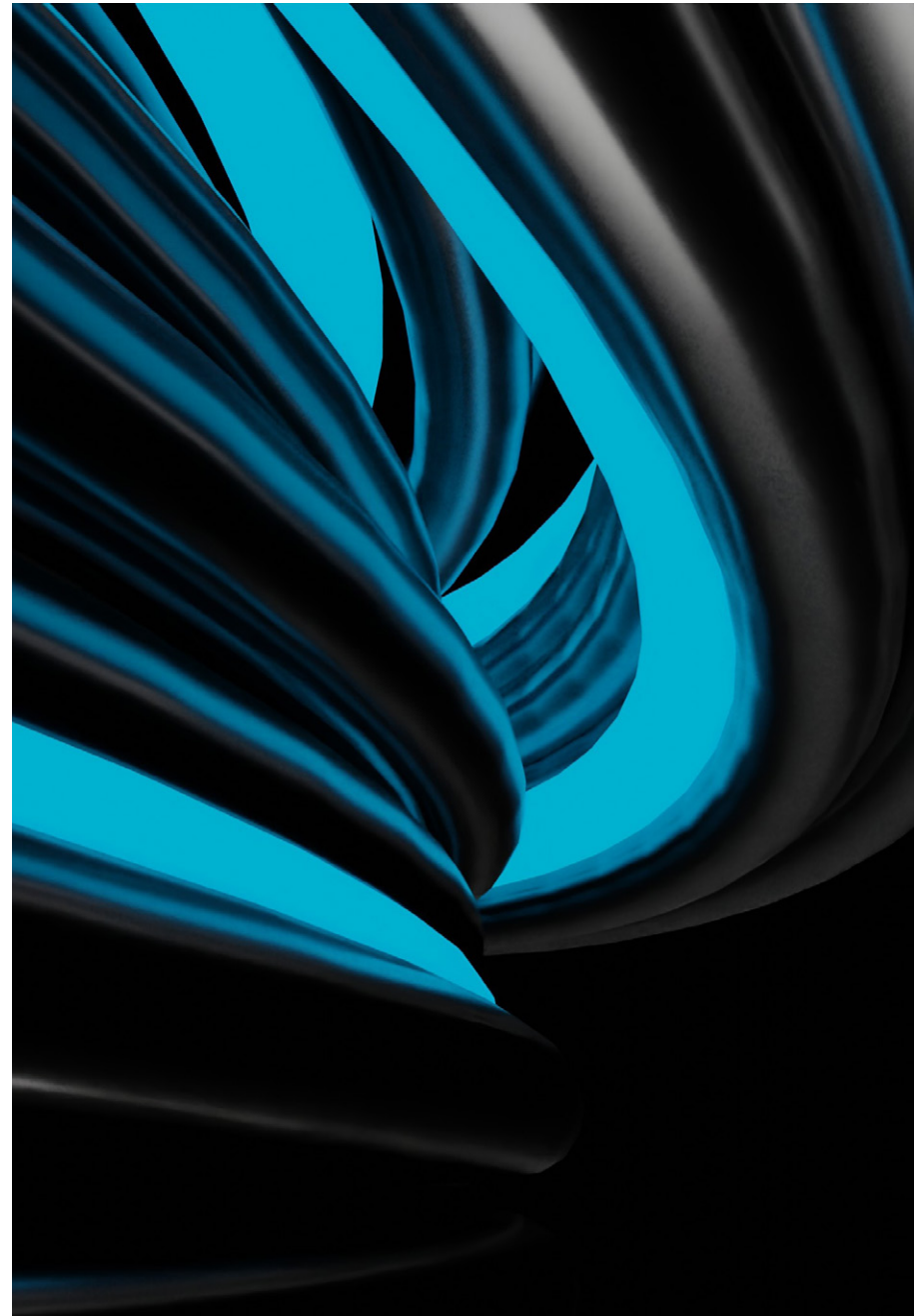
Consolidate Your Testing Tool Stack with Eggplant

Eggplant lets you test on any platform, at any scale, and for any location. It means you can consolidate multiple testing tools into one platform, helping you to cut costs.

Because you've got a unified testing platform, you reduce the time and effort required to perform testing tasks, helping you to improve efficiency.

You also have a centralized repository for test data and results, reducing the risk of data silos and inconsistencies and helping to enhance visibility.

Uniquely, the tools simulate virtual users at the application UI and network protocol levels to accurately measure user experience performance at scale. It's the key to improving the customer experience and gaining market competitiveness.





CHAPTER 3

Seizing Scaling Opportunities



CHAPTER 3

As we saw in the introduction, digital transformation is one of the key factors that mark the difference between businesses that thrive post-recession and those that struggle. But we all know that digital transformations are notorious for falling short. Indeed only 30% of digital transformation projects meet all their objectives.⁸ But what are the factors that distinguish a successful digital transformation from an unsuccessful one?

Research shows that one of the keys to successful digital transformation is to implement “a fit-for-purpose, modern technology architecture driven by business needs to enable secure, scalable performance, rapid change deployment, and seamless ecosystem integration.”⁹

When you think of what is required to achieve “scalable performance, rapid change deployment, and seamless system ecosystem integration”, you start to see why test automation is a critical element when you’re pursuing digital transformation and seeking to become a digital enterprise that’s equipped to scale.

Scalable performance can’t be achieved if you have highly manual systems and processes that will overload teams if the business scales. This is true for a QA team as it is for any other team in the business. Test automation gives you the process improvement so you can do more with less.

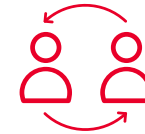
Rapid change deployment can’t be achieved if you have manual testing processes that slow down deployment. You inevitably build increased levels of technical debt and store up problems for the future.

Seamless ecosystem integration can’t be achieved when systems are implemented or operated in a silo or with only limited interconnectivity, damaging the customer or employee experience. Tools such as Keysight Eggplant give you an oversight of all your systems, so systems are genuinely seamless and seamlessly integrated - even as systems change over time.

Top 3 most Important Objectives for Quality and Test Activities According to Senior Management¹⁰



Business assurance
(help business growth,
business outcomes)



Ensure end-user
satisfaction and
experience



Quality enablement (support
everyone in the team to achieve
higher quality)

⁸ Boston Consulting Group: Flipping the Odds of Digital Transformation Success

⁹ Boston Consulting Group: Flipping the Odds of Digital Transformation Success

¹⁰ World Quality Report 2022-23 Fourteenth Edition

How Eggplant Prepares You to Seize Scaling Opportunities

Eggplant provides a suite of tools for functional, performance, and security testing, reducing the time and effort required to perform testing tasks. Automated testing processes can be run consistently and accurately, reducing the risk of human error, and providing a more reliable testing process because you only need to update test scripts in a single location, not multiple locations.

It enables you to scale testing processes and accommodate growth without adding additional resources, helping to improve productivity.

Eggplant's AI capabilities mean you can go far beyond the user journeys your engineering teams have envisaged. It can go into any and every possible journey, giving you greater coverage and helping to identify issues far outside the box, no matter how frequent the upgrade or release.

It's therefore a tool that drives an enhanced user experience - and the vital differentiation you need.

What's more, Eggplant's infrastructure evolves with you as you navigate digital transformation and continue the journey to become a digital enterprise. The digital twins you built to manage technical debt are the same digital twins you use to model scenarios and plan strategically when you've evolved to that point. Ultimately, it's a tool for the life of your organization.





CHAPTER 4

Keysight's Eggplant in Action



CHAPTER 4

Point of Sale software automation speeds up Albertson's regression testing to deliver better customer experience.

Overview

Albertson's Companies, Inc., is one of the largest American supermarket chains with 2,252 stores, 1,725 pharmacies, 398 fuel centers, 22 dedicated distribution centers, and 20 manufacturing facilities across 35 states.

With the drive towards frictionless retail, Albertsons was looking at ways to realize that vision. As it reviewed its technology infrastructure, it wanted to move from relying on manual testing of its point of sale (POS) and peripheral systems to an automated solution that would improve the quality of its software and the customer experience. This was critical to the business as POS issues, such as not taking card payment, directly impact revenue and frustrate customers.

Albertsons turned to Eggplant for its AI-driven test automation and Eggplant Regional Service Provider Partner IntelliQA, which specializes in industrialized test automation and robotics solutions, to solve the problem.

Accelerating POS Automation

The initial scope was to automate Albertsons' main bank testing as manual testing of the complex system was a slow and onerous task. Albertsons needed a test automation solution that didn't require installation on physical devices because that presented an array of security concerns. Eggplant's innovative solution is the only software that can test any technology on any device, operating system, or browser at any layer, from the user interface to application programming interfaces to the database, without being installed.

The intelligent automation tests thousands of scenarios quickly and continuously hunts for defects. This rapidly accelerated the delivery and quality of Albertsons' POS software. It also freed up the team to focus on evaluation and exploratory testing rather than repetitive manual test execution. The intelligent automation slashed the time to execute tests from almost two weeks to just a couple of days.

Explore in more detail

[Albertson's Case Study](#)

Results

Productivity

The retail POS test automation has been particularly valuable during the global pandemic by allowing manual testers to focus their efforts on new solutions being introduced to help ensure the safety of customers and essential retail associates.

Efficiency

Albertsons quickly trigger automated testing whenever a new version of vendor POS code is delivered. This has enabled the team to more quickly validate the quality of the software and identify new defects faster. It accelerates the time to identify issues and to consequently deploy software to the stores.

Cost reduction

The automation of over 600 retail POS regression test cases has allowed Albertsons to reduce the need to add manual testers for new initiatives.

“Our customers benefit from an improved experience, while our colleagues, without technology frustrations, can focus on the customer. Additionally, our implementation of test automation provided significant relief during the recent challenges with Covid-19. Eggplant is core to the capability, and we are excited by the use of AI within the product to optimize execution paths and hunt down defects.”

Mike Friedel, Sr. Director Retail Customer Solutions, Albertsons

“We truly have benefited from the robotics in our testing. The faster execution has enabled us to have back-to-back POS code drops or parallel testing for different purposes, POS for regression testing, pin pad update testing, and intake pre-release testing”.

Martha Crosley, QA Test Manager, Albertsons

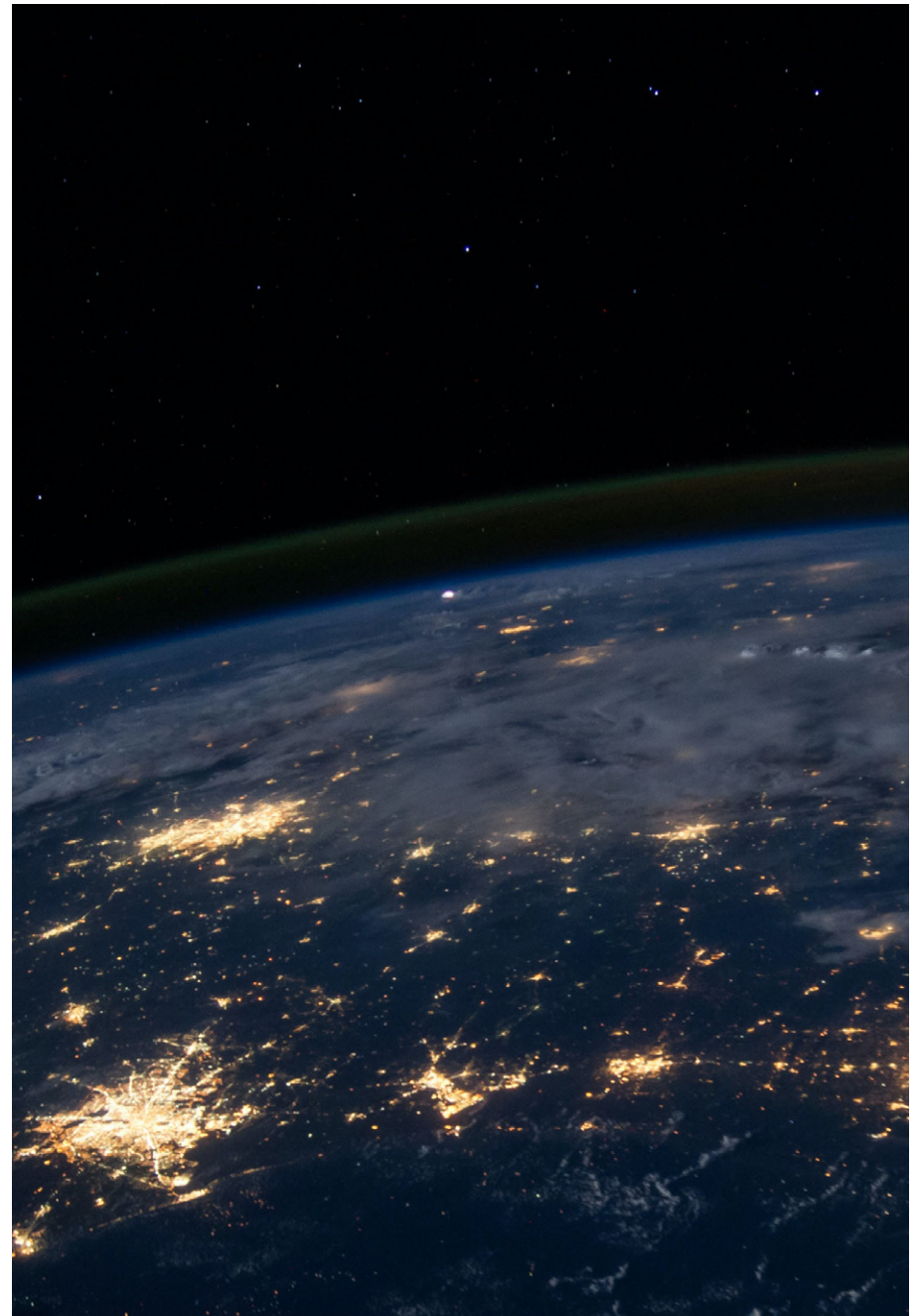
CONCLUSION

The economy is already slowing down, and recession looks likely sooner rather than later. The key to navigating it successfully - and even to securing growth - is to take proactive action.

One of the most important actions you can take is to recession-proof your business is digital transformation. Test automation may not be a glamorous or headlining-grabbing digital transformation investment. But it does help you secure the incremental wins that add up to a huge difference.

It's the key to unlocking the improved customer and employee experience that is where the biggest wins are both now and in the future.

It also underpins the success of any wider digital transformations you might be exploring. And when it comes to the test automation software that makes a difference, there's really only one answer: Keysight's Eggplant.





Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at www.keysight.com.

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