Removing the Barriers to Successful Test Automation for Retail and Commerce Systems

A PMC Insight Paper

Retail Sector Best Practice

Introduction

The pressure to deliver retail and commerce technology with efficiency, speed and quality has never been greater. **Test Automation** is recognised as the most effective means to deliver short release cycles, whilst also ensuring reduced risk, improved quality, faster time to market and reduced ongoing Testing costs.

Yet many retailers and B2C organisations struggle to successfully implement automated testing and are unable to realise the benefits. For many, the root cause is a skills gap. For others, it's a failure to understand the **Test Automation Return on Investment**, leading to difficulties when justifying the initial investment to implement the automation solution.

This Retail Sector Insight Paper tackles these and other challenges, whilst offering some **best practice approaches** to implementing **Test Automation** for retail and commerce systems.

Typical Challenges and How to Overcome Them

1

Deciding What to Automate

It's rarely possible to automate 100% of the system and every single test case. Begin by defining a set of criteria which test cases must meet to determine which test cases are most important.

Usually it's the areas that are prone to risk, are at the point of customer interaction, or are characterised by complex business logic. Identify these application areas and test case parameters to make sure that your automation efforts pay off.

For example, it's a good idea to automate test cases executed with different sets of data, or in different environments. The same goes for test cases with a large amount of data.

2

Selecting the Right Automation Tools

Automation requires specific skills and tools. Problems arise when a business lacks the expertise to make the most of an approach or specific tool.

Equally difficult is a tool that doesn't provide sufficient test coverage or engage effectively with the technologies involved.

You need to utilise the strengths and skills of your automation team to create a bespoke framework from available open-source tools. This ensures you create a tool which fits exactly with your requirements and delivers according to your expectations.

3

Team Communication and Collaboration

Test automation generally requires more communication and collaboration. Automation relies on past testing data and experience. For automated testing to work, the entire team needs to be on the same page.

Automation testers should be in touch with not only the business team, but also manual testers, developers and technical architects. They're the ones who present the ROI of automation to the executive management.
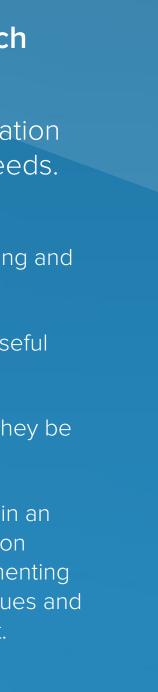
You need solid team management support in place before you begin automating your tests. Create a collaborative environment where team members can easily communicate to deliver test results on time and with as little risk as possible.

4

Choosing a Testing Approach

Testers need to identify a test automation approach to closely matches their needs. It can help to ask questions like:

- How will we reduce the cost of implementing and maintaining test suites?

- Will our automation tool help us develop useful test reports and metrics?

- Will these suites have a long life, and can they be easily maintained and updated?

This is especially important if you're working in an agile environment where the tested application changes on a regular basis. Consider implementing an automation solution that detects these issues and automatically updates or re-validates the test.

Typical Challenges and How to Overcome them

5 Understand Test Automation ROI

The cost of setting up a test automation suite prevents many teams from incorporating automated testing into their testing programme.

Before presenting the automation suite to management, analyse and build a test automation framework, including elements such as libraries of reusable functions. Add both hardware and software costs as well.

Incorporate licensing costs if you plan to use a paid tool. Even if you opt for an open source solution, still consider the expenses related to training and maintenance.

Convincing stakeholders that automation is worth all that effort is a difficult task, but the potential ROI is a good argument, so prepare a plan together with a budget.

6 Ensuring You Have the Necessary Skillsets

Correct Test Automation requires experienced teams to design and maintain test automation frameworks and test scripts whilst building solutions and other critical elements.

For automated testing to work, teams need a solid knowledge of the framework's design and implementation, so make sure your testing resources have strong coding skills and test automation knowledge.

7 Managing Stakeholder Expectations

While test automation is great for automatically checking the system for bugs, you still need humans to complete the non-automated testing sections. These tests also bring plenty of valuable information to inform decisions about improving the system.

That's why you need to ensure that your testing team, the management and other stakeholders all agree and understand the desired scope and outcomes of your automation plan.

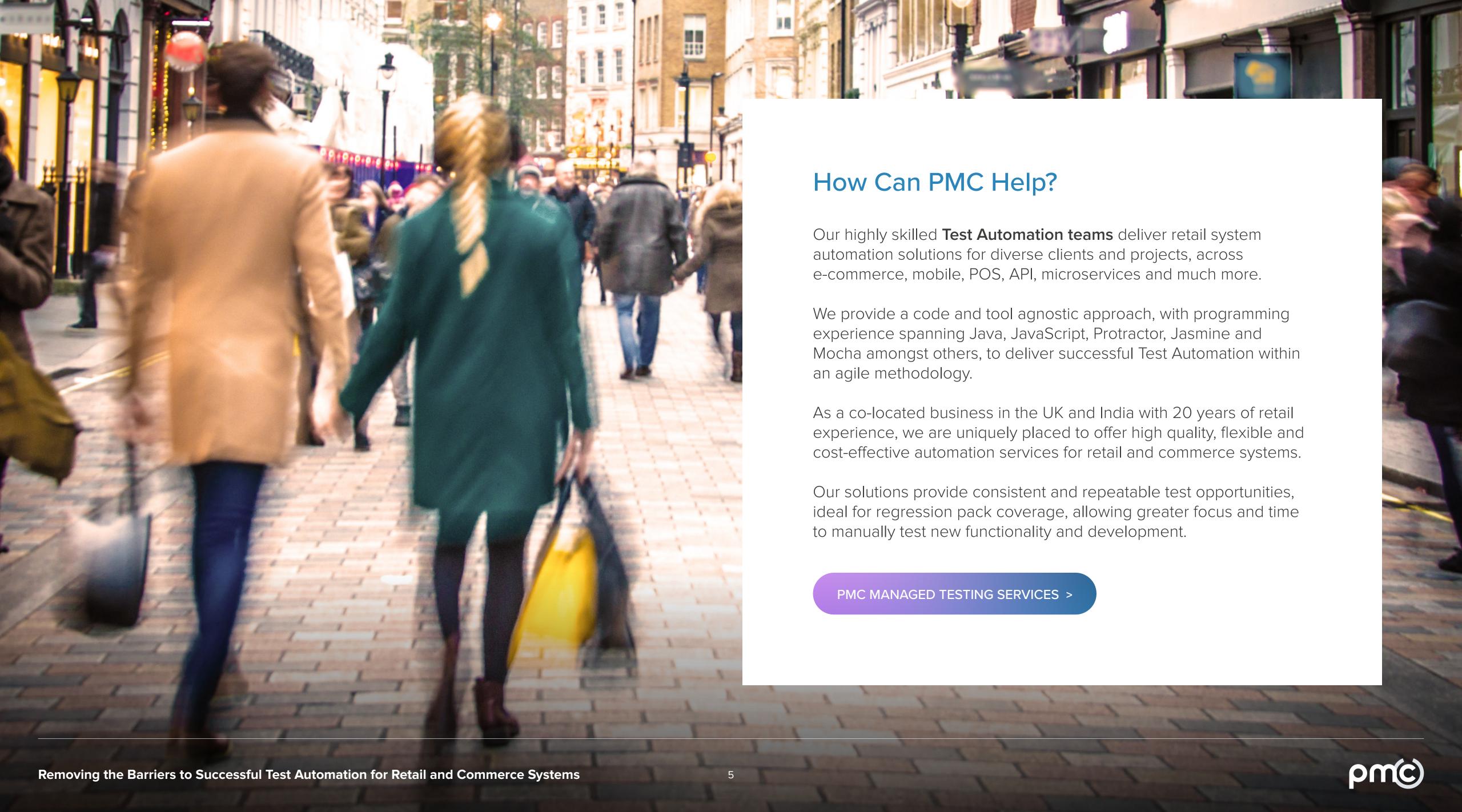## 8 Knowing When to Begin and When to Stop Testing

This difficult question is faced by all Test Managers at some point. When to start is just as important as what to test. Initiating automated testing at the wrong stage of your software's life cycle can be a waste of resources.

Start with manual testing – your engineers will be able to tell when the system is stable enough and ready for automated testing.

How Can PMC Help?

Our highly skilled **Test Automation teams** deliver retail system automation solutions for diverse clients and projects, across e-commerce, mobile, POS, API, microservices and much more.

We provide a code and tool agnostic approach, with programming experience spanning Java, JavaScript, Protractor, Jasmine and Mocha amongst others, to deliver successful Test Automation within an agile methodology.

As a co-located business in the UK and India with 20 years of retail experience, we are uniquely placed to offer high quality, flexible and cost-effective automation services for retail and commerce systems.

Our solutions provide consistent and repeatable test opportunities, ideal for regression pack coverage, allowing greater focus and time to manually test new functionality and development.

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About PMC

PMC is a leading **Technology Service Provider** with the experience, skillsets, and flexible teams to deliver **Technology Transformation** into retail and B2C.

Our **Managed Testing Services** offer the expertise and scalability that can be difficult to retain in-house. **PMC Test Automation services** are also backed by extensive research and development into the use of the latest technologies.

Our tool-agnostic and open-source approach serves to minimise the licensing and maintenance costs. **PMC Testing teams** combine testing expertise with a development mindset and deep understanding of Retail sector requirements.

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