

Are your existing systems holding back your
Enterprise in Digital Transformation?



QMetry

Empower your Enterprise with Benefits of Digital Transformation

Digital transformation requires an organization to undergo technological as well as process changes with the aim of delivering the best value to your customers and safeguarding their future.





Legacy



Digital



In recent years, there is a marked shift from the traditional, enterprise IT operating model to lean IT which is agile and outcome-oriented.

The main reason for this shift is the need for improved collaboration, faster release and deployment cycles and adoption of agile development methodologies.

To be lean in practice, enterprises need to adopt new processes and new technologies that support the much-needed agility. This poses a challenge for organizations that have retained the same operating practices for decades using the same tools, processes and legacy infrastructure.

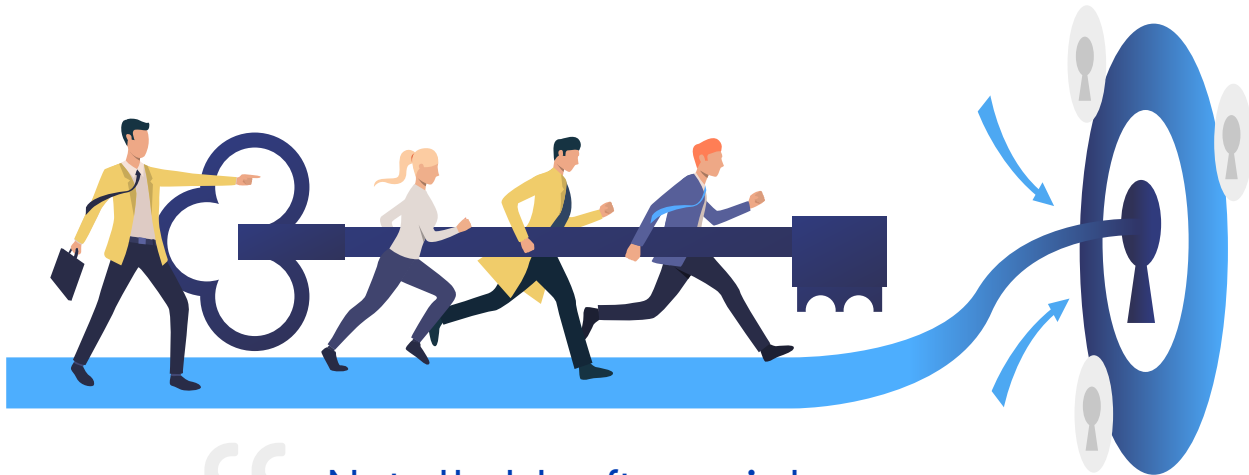
Many teams do understand the value of new technology and processes but convincing C-suites to invest in innovation and demonstrating the ROI of the Agile based new tools is a hurdle.

This is partly because enterprises have invested considerable time, money and effort in maintaining, tweaking, customizing and incrementally upgrading their legacy systems. The legacy systems do work to a certain extent and seem to do their work fine. Yet, considering the pace of digital transformation, the sluggish efforts are not enough.

The difference between trying to keep up and staying ahead of the competition in your digital transformation is quite significant.

In the UK and the US, businesses are significantly missing out [on opportunity and economy due to 140\\$ billion worth of disconnected data](#). Much of the current enterprise tool architecture is not equipped to enable seamless data porting and is generally plagued with usability issues and high maintenance. Add to this, concerns of scalability, speed, high cost of operations and decreased security. It is a classic recipe for an imminent disaster.

Common Challenges with the Existing Systems



“ Not all old software is legacy

Here is an important distinction – legacy software is typically not compatible with modern software and presents some core challenges listed here:



Prohibitive maintenance costs

Systems stop upgrading:

Maintaining and customizing existing systems is a massive overhead for organizations. The technology requires the implementation of legacy languages and programming tools that are quickly becoming outdated. What compounds the challenge is that the developing company no longer supports older versions of your architecture, necessitating heavy investment in updates and licenses. Over a period, organizations face issue when these existing systems stop upgrading. Once working fine systems start to transform into legacy systems.

System is too fragile, rigid and not scalable:

Legacy systems become fragile due to all the patchwork implemented on them. Further, legacy systems are built on an architecture that doesn't allow them to scale or change in order to meet your fast-paced business demands. Because of this rigidity, the only option available is to keep on making manual code fixtures here and there on top of your legacy systems, in the hope that one day these legacy systems will align to your business needs.

Too much of patchwork:

Maintenance on this frigid, patched system is huge and they are the sunk costs whose value in the business contribution is hard to realize. Through these years working with different types of systems, we have observed that when organizations start comparing the support and maintenance costs of legacy systems with that of replacing it with modern solution, organizations find that maintaining these fixtures are proving costlier and pose great risk to your business than finally replacing it.



Inability to communicate/integrate with other systems

Not too long ago, systems were built keeping in mind to work alone without allowing them to integrate or communicate with other systems. But over time, companies have realized not one system can fulfil all the enterprise needs. For example, today we have Jira for issue tracking as well as capturing and tracking requirements, Trello for project management activities, a test management tool for managing tests, and so on and so forth. The architecture framework and technology stack behind these old systems, is not integration-friendly. It doesn't allow integrating with these modern time and effort saving tools. This leads to a huge roadblock in achieving the desired quick and efficient results.

On top of it, these systems are built considering that they will be utilized for developing the software product with the waterfall development approach. With waterfall model getting replaced with agile development, enterprises try to fit the same existing systems in the agile lifecycle. This leads to additional complexity as well as chaos because these systems don't support the required integration capabilities to seamlessly collaborate in the agile orchestration.



Lack of actionable insights and customized reporting

A couple of years ago, it was a common notion within software development companies that displaying huge amount of clunky and complex data in form of tables is the best practice for showing reports to users. The reports in such systems come with a lot of unwanted data, leading to increase in size of the reports and increasing the load on the system. Due to this load, in most of old systems, data can be accessed by the decision makers only after "end of day cron" runs. As the name suggests, these periodic cron job are run at the end of the day. This results in the decision making to wait until users can have the actual data after EOD process is completed.

All this unwieldy data is then put together in reports and dashboards which are not intuitively designed. They cannot be customized nor tailor the information as per end users' needs. This adds to the confusion and much time is wasted on interpreting the data displayed.

With the concept of omnichannel coming into existence where customers' need is the prime focus, these enterprises have realized that reports and dashboards need to satisfy only necessary actionable insights. What is required is different type of reports for different set of people. Stakeholders and decision makers

need advanced analytics, dashboards and cross-project reporting to take informed go/no-go decisions. Whereas executioners need the on-going project status and issue logging to move forward in the project development.



Unable to keep up with customer's needs

In the hey-day of legacy systems, there weren't many choices available, neither was the competition so fierce among platforms. Legacy architecture was built with the approach that why fix what's not broken. As legacy tool builders were not scarred with the fear of competition, customers had no other options wherein they could evaluate for themselves an alternative solution. The reasoning or mindset behind these old systems is that "it is what it is and you get used to it".

Fortunately, in the recent years with a highly competitive and technologically advanced market, customers have so many different platforms to evaluate. Today, the customer is the king and is spoilt for choice. Whereas, on the other side, legacy systems are not designed to accommodate such changing market demands.

Moreover, user experience is a decisive factor in the effective implementation of any tool or product. Rigid existing products score poorly on usability with common challenges of frozen screens, incompatibility with various OS and a general design language that was not meant for the modern user. Modern teams today demand a streamlined interface supporting various devices and platforms enabling consistent performance and usability.



Slow go-to market

The product development cycles within such legacy platforms, normally follow the long waterfall development model wherein the product's worth can't be realized until it is released at the end of the SDLC cycle.

This is a competitive world wherein enterprises cannot afford to lose the customers by having long development cycles and not able to deliver updates/improvements to the end users frequently. These old legacy tools don't allow to integrate with other tools. And hence, for all the required actions and tasks that need to be performed, manual intervention is required which is prone to error and slow in execution.

Shifting Paradigm - The need to modernize for successful digital transformation



There is a human resource challenge with a shrinking pool of people who can actually work on and maintain these legacy applications.

Organizations using legacy tools are aware of the long dev cycles that are waterfall oriented. In many instances, unintegrated, on-premise systems are slow and require manual intervention. These prevent them from building better customer / consumer experiences on their

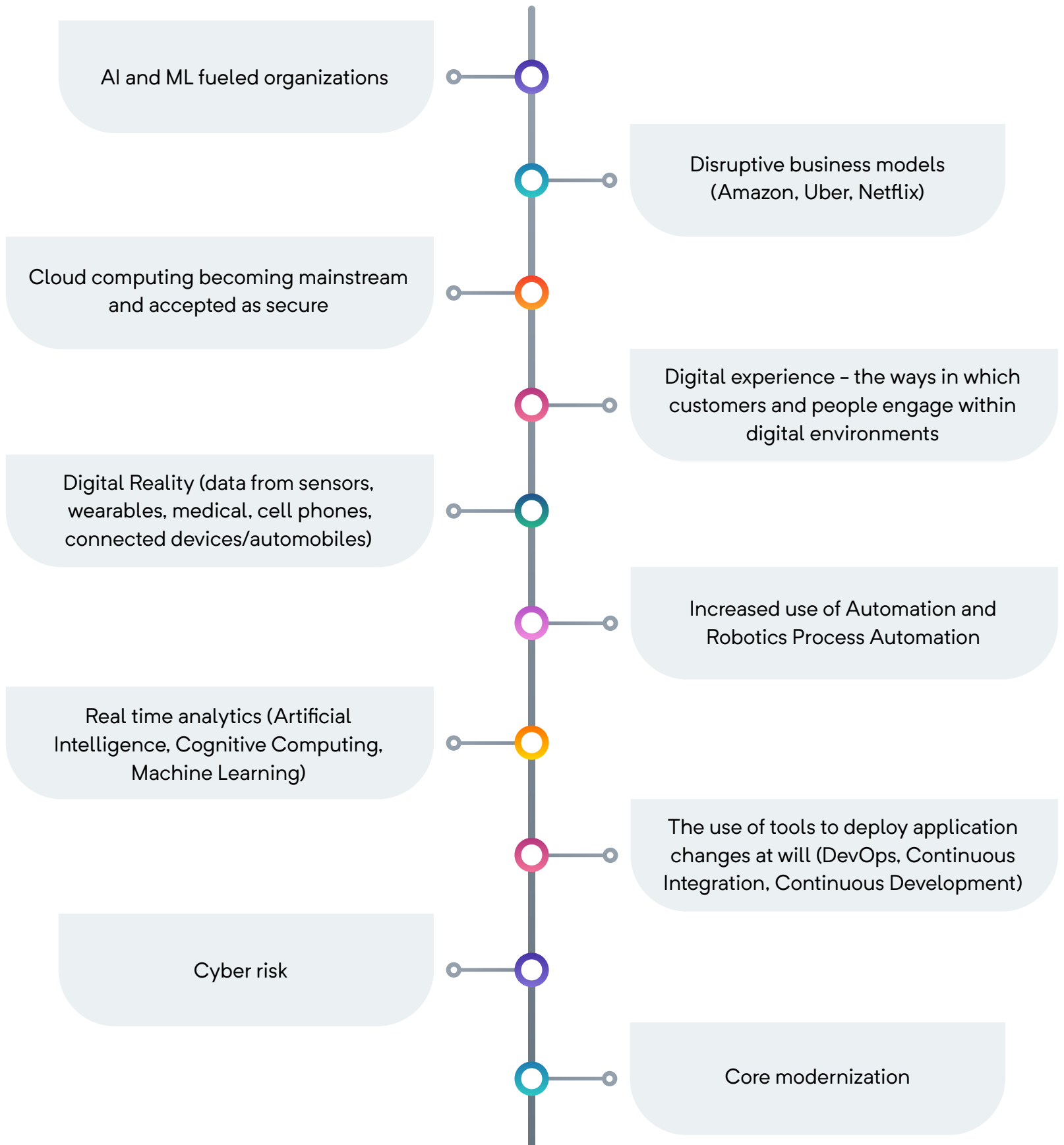
digital platforms at a faster pace to support immediate business demands. The legacy systems are also heavy on infrastructure. This means they can't scale up on demand. They lack the necessary integrations or are difficult to integrate and offer limited scope to generate useful, actionable insights faster.

And if your industry falls under strict compliance or regulatory requirements, legacy systems simply won't measure up. Compliance standards such as HIPAA, SOX, PCI etc. require that your technology is current and supported. If you experience a data breach, there is high price to pay both in terms of reputation loss and fees/penalties. Legacy systems are archaic because they lack the data analytics and interoperability, forcing tech leaders to find fixes and makeshift solutions that are neither efficient nor agile.

A recent survey undertaken by [VMware and MIT Technology Review](#), spoke to 1,300 IT leaders and found that 62% of respondents named "the integration of legacy systems as their biggest challenge in multi-cloud, while 61% said their primary difficulty was understanding the new technology associated with it."

According to IDC's Worldwide Semi-annual Digital Transformation Spending Guide, worldwide spending on technologies and services that enable digital transformation will reach [\\$1.97 trillion in 2022](#). IDC also predicts that digital transformation spending will grow steadily, achieving a five-year compound annual growth rate of 16.7 percent between 2017 and 2022.

Some macro Technology trends that influencing the decisions



Digital Transformation



Digital transformation thrives on speed and quality and on filling the gaps in the market and continuous innovation to present the product before the competition does. These characteristics differentiate in the overcrowded digital landscape. Many leaders have found their answer in DevOps practice, which emphasizes on Continuous Deployment, development and delivery of applications. DevOps is a transformative approach that enables you to achieve speed, innovation and quality.

DevOps practice ensures that an organization achieves the necessary agility through continuous delivery and deployment. At the same time, DevOps allows speed by promoting IT and test automation with the help of continuous testing which is also responsible for quality product release.

Automation forms the most essential part of DevOps practice to orchestrate the set of continuous activities i.e. continuous integration, continuous delivery, continuous deployment, continuous testing. Automation is enabled in the DevOps pipeline at these two places.

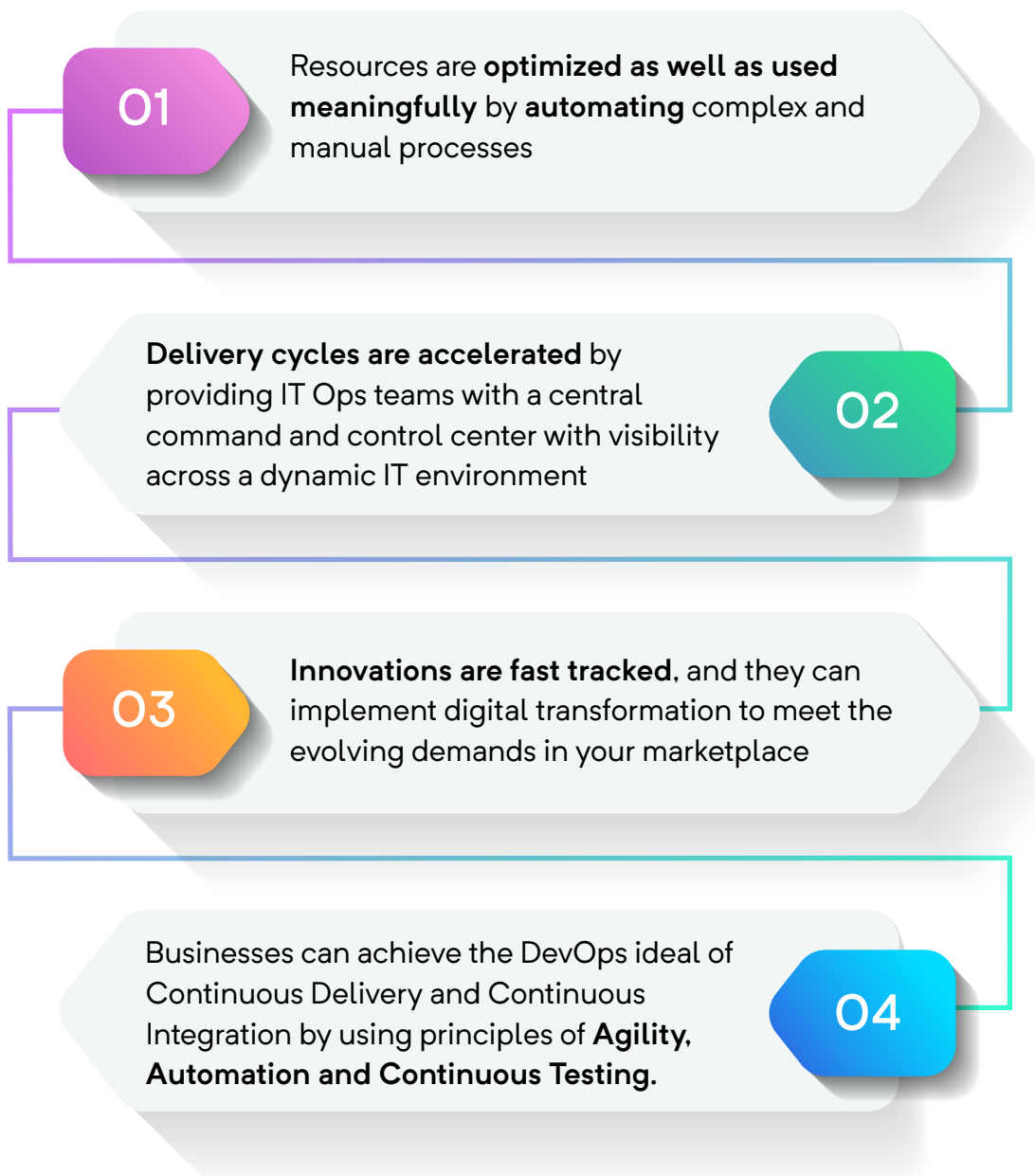
1 The code or the build is taken from one phase of the pipeline to another automatically, say from code check in to integration to deployment.

2 And at the same time at each step, this code or build is tested continuously in the DevOps pipeline through test automation.

There are many benefits that test automation provides to the DevOps teams. Test Automation helps in shortening the project delivery cycle at the same time also improving the cost of each deployment.

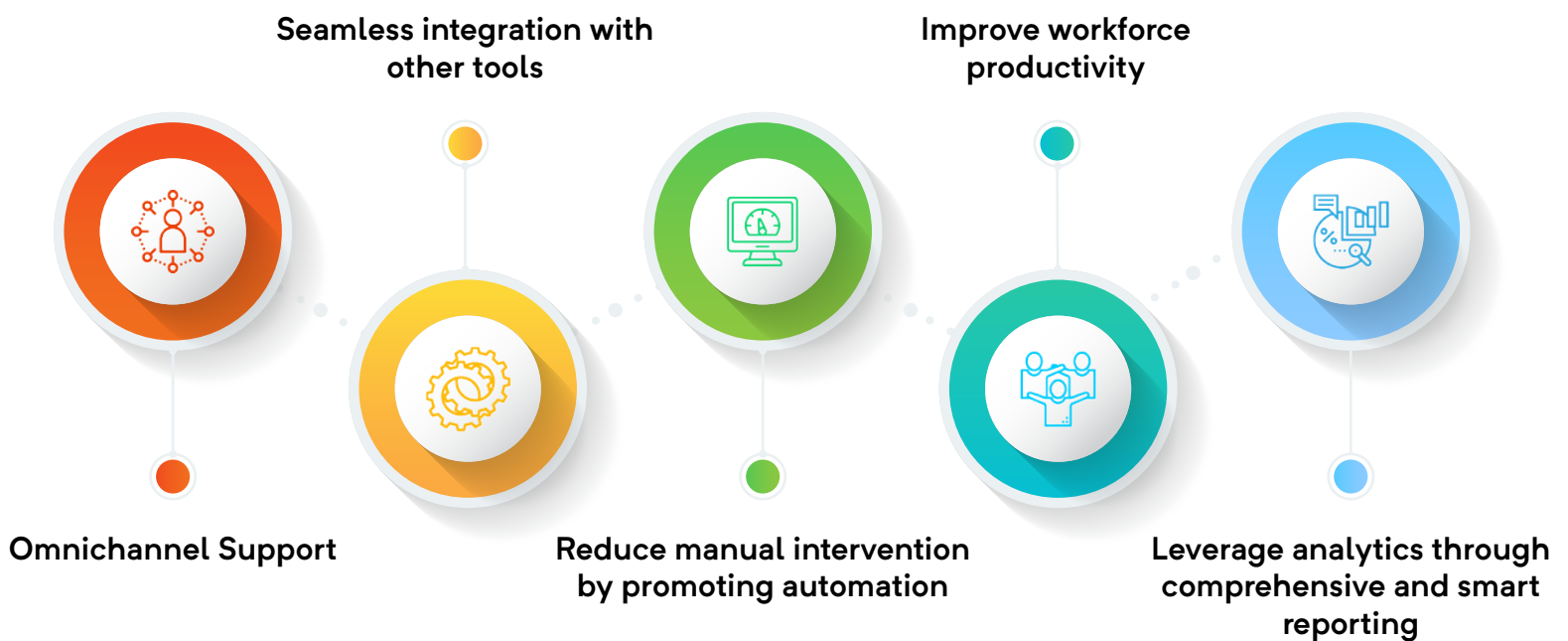
Test Automation results in your developers receiving feedback early. These feedbacks can then be implemented faster by them which ultimately leads to faster deployment and go to market. At the same time, enterprises can also realize the business values of incorporating test automation.

Business Value of Test Automation



New tools based on DevOps practice to boost your Digital Transformation

To enable these initiatives in form of DevOps practice and agile transformations, it is necessary to employ the digital technologies supporting cloud, mobility, IoT, cognitive automation, AI and ML, analytics, etc. These technologies lay the foundation for modernizing the workforce operating environment by enabling collaboration and communication. Digital technologies reduce the manual efforts and thereby, promoting business growth through digital solution innovations. Some best practices that you should ensure in your next digital solution are:



Multi-channel Support

The digital mix is a complex one with a combination of tech — Internet of Things, voicebots and chatbots — just to name a few. As the channels and touchpoints have increased, so have consumer expectations from multiple channels. Today's software products need to live up to these ideals across channels and platforms.

Supporting multiple devices and different operating systems across mobile, web and mobile web is a necessity for the new systems helping in digital transformation. The new set of tools should fulfil the

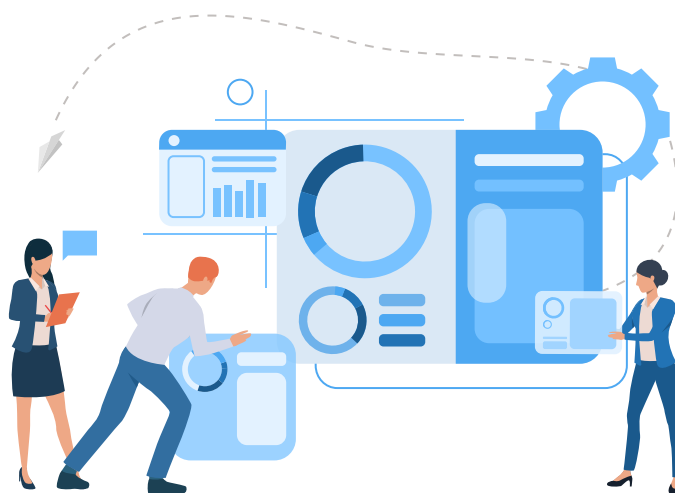
personalized customer experience that is seamless, easy and reliable on all or multiple channels such as mobile and web. In order to ensure the highest product quality on various channels, testing on multiple devices with various operating systems and all possible scenarios/bandwidth simulations is also a must.

The new systems along with the capability of integrating with other channels lays a substantial groundwork for digital transformation strategy. Multi-channel support within a single or integrated platform brings together numerous variants of technology such as mobility, IoT, AI and ML, analytics with big data, cloud and on-premise, intelligent automation with cognitive authoring, etc. The new system should contain the flexibility of turning ON and OFF different platforms and channels as the new discoveries about the consumer's need and new technological advances are made. In short, your new set of tools should be scalable along with ensuring reliability, stability and consistency across different platforms to support the Omnichannel customer experience.



Seamless integration with other tools

The main objective of digital transformation is to provide the best customer experience, innovate fast and go to market with your product even faster. However, any single tool cannot achieve all these expectations. Your tool cannot be a standalone system expected to do everything without any interoperability. Instead, what best a tool can do is — be light weight, simple and allow easy and quick integrations with other systems. By doing this, you will have a stack of technologies which creates a fully driven ecosystem delivering the best business value to your enterprise.



Your mix of different channels (mobility, IoT, etc.) consisting of disparate systems should integrate and communicate with each other to help in delivering an effective solution. To achieve this, the ideal expectation for any system or tool is that it should be flexible, scalable and can operate seamlessly in the agile environment to confirm quick go to market.

One way to integrate with other tools is to provide the flexibility of open API. Exposing API of your tool allows other systems to repackage the assets that is captured by the tool. This unlocks the valuable data captured by one tool to reused, composed and utilized by other systems, ensuring smarter, faster decisions. This strategy of exposing API enhances the integration capability allowing to connect, communicate and manage all the types of applications from cloud to server.



Improve workforce productivity

Along with great external consumer experience, digital transformation also focuses on the internal team efficiency and productivity. Below are few highlights expected from the tool to help in boosting the digital transformation.

— Ensure team collaboration:

Teams following DevOps and Agile practices need to collaborate with real time updates and progress details. The new age tools must allow different users to be given specific role-based access. Today's SaaS based system enables team to collaborate seamlessly with live data synchronization.



— Connect geographically dispersed teams:

Gone are the days when all teams and their members used to work from the same space. These days teams are geographically dispersed, some working onsite, some offsite or some from remote locations. Digital tools should be capable of connecting these dispersed members on the same platform.

— Smart and modern UI for easy and quick tasks:

These days teams are expected to learn fast and implement even faster. New tools are by default expected to be very simple to use with an intuitive user interface. Minimal clicks and displaying only relevant meaningful data are the primary objectives expected from the tools

— Smart and timely feedbacks:

Organizations gain real-time visibility across projects and teams through various report. Agile teams can release more confidently on schedule by using relevant analytics, data and sanity check reports.



Reduce manual intervention by promoting automation

One of the aims of digital transformation is speedy delivery. IT modernization and DevOps are what drives this strategy. DevOps requires amalgamation of development, operations and testing teams to collaborate, communicate and coordinate more closely and frequently. And to achieve this, orchestration of activities and tools is required in the CI/CD pipeline. This orchestration is what will enable you to deliver fast with quality.



Success of the CI/CD pipeline orchestration relies completely on IT automation that allows handoffs between different steps in the pipeline. IT automation empowers teams by allowing them to focus on innovation and reduce the day to day manual intervention. IT automation ensures consistency, stability, innovation and a rhythm of fast continuous deployment. To support automation, the tool should support integration with frameworks such as Selenium, Cucumber, QMetry Automation Framework, etc.. Today, there are lot of platforms available in the market such as QMetry Automation Studio, Katalon Studio, TestComplete that allows integration with the automation frameworks.

The role tools play in reducing manual intervention and enabling automation of tasks is a significant one. But to achieve this, tools must ideally integrate with CI/CD tools such as Jenkins, Bamboo which can trigger different actions. As well as have the capability of automatically capturing the results. This reduces the dependency of manually performing complex activities which can be automated and performed even quicker.



Leverage analytics through comprehensive and smart reporting

From Agile and DevOps to the continuous aspect of everything, be it integration, delivery or testing, it is a constant race against time. It is easy for Agile teams to get overwhelmed with the amount of activities and the vast amounts of data being captured. Digital tools must help teams to measure and monitor activities by showing only meaningful and relevant information in form of actionable insights. Analytics offer



insights into various teams' progress, productivity and the quality of the application. Therefore, tools should allow various teams to set their own benchmarks based on what they want to track, control and improve.

Analytics provide clarity of data and reporting that show you where the gaps are. So that you don't waste resource time, money and efficiency in developing, executing or maintaining what is not even required in the first place. With the help of valuable insight and actionable intelligence derived from all your data, you can shorten the feedback loop and reduce process time and efforts. With modern testing challenges, one-size-fits-all type of reporting is no longer enough. You need to build customized dashboard gadgets and reports to gain full visibility and data based on stakeholder preference. With the help of comprehensive reports, executives can take go/no-go decisions. Graphs need to be flexible enough to incorporate user preferences to chart out the data. resource time, money and efficiency in developing, executing or maintaining what is not even required in the first place. With the help of valuable insight and actionable intelligence derived from all your data, you can shorten the feedback loop and reduce process time and efforts. With modern testing challenges, one-size-fits-all type of reporting is no longer enough. You need to build customized dashboard gadgets and reports to gain full visibility and data based on stakeholder preference. With the help of comprehensive reports, executives can take go/no-go decisions. Graphs need to be flexible enough to incorporate user preferences to chart out the data.

Towards relevant modernization

What has also changed is the way we work with legacy systems versus the past.

Previously, the modernization process was simpler and more predictable. There was certainty and end- users had specific expectations from the behaviour and outcomes. Therefore, it was relatively easy to architect new solutions from legacy software because they looked and acted a lot like the previous solutions. The new systems followed the same underlying technologies with the similar structures and workflows as their predecessors.

That is, the outcome was designed as per client expectation.

There were also known limitations to what the legacy technologies could do and offer to users. There was limited scope for innovation. But in today's competitive climate with evolving customer expectations, and the accelerated speed of digital transformation, the needle has moved.

Enterprises are now increasingly customer-centric and focused on future-proofing their business from disruptive forces. Where the future gets less predictable and more daunting, enterprises need a solution that's future-proof. "We don't know what the future looks like and we need a solution that supports the current needs of the future as well as systems that are scalable and sustainable to accommodate the unknown."

Organizations therefore need solutions that reduce the risks associated with the rapid release cycles with the ability to scale and adapt to emerging tech.



How QMetry can support your Agile and DevOps initiatives?

- Speed up release cycles with modern test management and DevOps-ready integrations across your continuous delivery pipeline.
- QMetry allows you to track, organize, link and report on test activities across projects and tools. Experience scalable and comprehensive test management for test automation, exploratory testing and BDD.
- Smarter testing with actionable insights, traceability and reusability of test assets.

Find out how our client resolved critical Test Management Challenges with help of our proven Migration strategy

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