As organizations operating in highly regulated environments become digital, the assurance of enterprise business processes supported by myriad technologies and methodologies can be challenging to IT leaders. A structured approach that balances quality with speed can help assure that digital business processes deliver significant value to enterprises.

Executive Summary
In today’s digitally transforming environment, IT organizations have realized the importance of Agile development methodologies. The implementation of Agile has enabled enterprises to modernize their business models to suit the end-consumer’s ever-changing demands by making business processes nimble and speeding up development and deployment processes.

However, the blinkered focus on speed has opened a Pandora’s Box by compromising integrity and increasing the risk to business. With Agile, business process assurance (BPA) helps businesses navigate an increasingly complex and regulated market by being resilient and nimble at the same time.

This white paper explores the concepts of BPA, provides key insights on Agile implementation challenges and decodes how BPA assures Agile project success.

Business Process Assurance Defined
BPA ensures that a set of end-to-end business processes function as intended. It aims to identify defects before the code is deployed into production, thereby ensuring that the cost to repair a flaw is at a bare minimum and prevents any negative impacts on revenue, reputation or customer satisfaction. BPA focuses on requirements and ensures business resilience, thus providing adequate functional coverage. (For more on BPA, read our white paper, From ‘Zero Defect Software’ to ‘First Time Right with Business’.)

Business process validation can be performed at various timescales:

• **Project basis**: First-time deployment of new enterprise software systems.
• **Periodic basis**: Regular monthly, quarterly or annual updates to enterprise software.
• **Continuous basis:** Round-the-clock validation of enterprise systems and process swiftness.

**BPA Mitigates Agile Challenges**

Being a nimble and flexible methodology, Agile supports enterprises in delivering faster releases, along with building efficiency in change management. But Agile does come with a whirlpool of practical challenges: disparate teams, fragmented deliverables and speed-over-integrity are just some.

BPA can overcome daunting Agile development challenges as follows.

• **User stories without acceptance test:** Organizations that depend on Agile are focusing on “business acceptability,” which transcends user stories. Changes to a fragment of the business process may have a ripple effect on the rest. Stifling and constricted schedules during change implementation often lead to business processes being ignored. By leveraging a comprehensive business process with a contextual view, BPA assures business continuity.

• **Deficiency in expertise:** The ideology behind Agile is built on a time-boxed development of multiple small-duration iterations. This calls for a competent team adept with specialized skills in the respective domains and technology. BPA includes the expertise of ex-industry veterans and the knowledge of subject matter experts (SMEs) who study and analyze each Sprint of Agile project changes.

• **Tackling complexity of mature applications:** Complexities in application and an exponential increase in the number of lines of code lead to performance-related issues after go-live. With an analytics-driven approach, BPA automation supports multiple-Sprint regressions scenarios by identifying business-critical solar flares, and ensures end-to-end process validation.

• **Early detection of defects:** When defects are found at a later stage of an iteration, there can be delays in post-production, thus becoming an expensive issue. Time spent fixing a bug equates to time taken away from producing customer value, and may be one of the reasons why Agile teams are pushing for zero-defect products. BPA proposes a comprehensive defect-tracking mechanism by regularly updating the process-flow heat map with recent defect logs. It also deploys analytics to predict defects early in the lifecycle, while designing the test strategy to validate business process flow.

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**Quick Take**

**Agile’s Lifecycle Automation**

BPA implements automation methodologies that complement test design, QA processes and analytics-driven regression in a multi-Sprint strategy.

• **Test design and maintenance:** BPA requires a test design automation tool (e.g., our ADPART tool) to accelerate test case generation, test suites optimization, change management and impact analysis, based on business process flows.

• **Analytics-driven regression:** BPA re-creates a robust regression test suite that validates business readiness with multiple Sprints by using BPA asset repositories, scripts mapped to outstanding defects and critical business flows. These flows are identified through careful analysis of nonconventional business inputs.
Doing the BPA Six-Step

**Agile Project A**

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**Step 1**
The complete set of user stories for a Sprint are studied in detail in order to understand the scope and the functionalities involved.

**Business Process Assets Mapping**

- Process 1
- Process 2
- Process 3
- Process 4
- Process 5
- Process 6
- Process 7
- Process 8
- Process 9
- Process 10
- Process 11

**Step 2**
Based on this understanding, the changes are mapped to the business process flow maps maintained in Business Process Assets.

**Impact Analysis**

- Process 1
- Process 2
- Process 3
- Process 4
- Process 5
- Process 6
- Process 7
- Process 8
- Process 9
- Process 10
- Process 11

**Step 3**
The impact of process change within the Sprint changes is identified.
Regression Testing

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Step 6
Post-test execution of all the Sprints; automated regression testing of end-to-end business scenarios is performed to validate business readiness.
• No holistic view of the release: Agile focuses on "story cards," or small pieces of a change. Each story card may be developed, and then tested, to work perfectly, but applications, systems and business workflows go beyond the story cards. With disparate and segregated teams, it becomes difficult to create an overview of the underlying user story that ensures all links are addressed. By focusing on the essentials required to conduct business as usual, comply with regulations and guide user behavior, BPA imparts the confidence a business needs to make informed implementation decisions.

As the above points demonstrate, businesses can address key Agile challenges and ensure successful delivery by incorporating BPA.

BPA in an Agile Environment
Throughout the application of BPA, business flows are progressively checked and monitored by using representative data that confirms the accuracy of business rules. It ensures that all underlying transactions are being performed in the expected manner, even during exceptions and fraud scenarios, and are compliant with regulations across the business process.

It is possible to infuse BPA into an Agile framework by designing user stories and acceptance criteria that are based on the prerequisite business and end-user outcomes. Figure 1 (pages 3 and 4) depicts a six-step BPA solution in an Agile environment.

Agile’s BPA Best Practices
Designed to withstand turbulent environments, Agile is a team-based approach that gives the ability to make decisions without the introduction of risks. This principle intersects perfectly with BPA’s methodology of continuous improvement, ease of use and prevention of shocks. The best practices propagated by BPA for Agile are shown in Figure 2.

Overcoming BPA Challenges in Agile Implementation and Mitigation
• Inadequate right-skilled resources:
  › Utilize the subject matter experts/ex-auditors/ex-bankers to prepare the BPA assets and to bring a business perspective.

Excelling with Agile BPA

![Figure 2](image-url)

- **User surrogacy:** Ex-banker/business analyst/business tester model.
- **End-to-end view:** E2E business process articulation along with user story.
- **Business process automation:** Automated business components for stitching together automated acceptance tests.
- **E2E business test assets:** (global generic/regulatory/client-specific) in each Sprint.
- **Shift left:** Acceptance tests shared/used at the start of the Sprint.
- **Shift right:** Production Issue analytics, most likely to fail (MLTF) scores for improved test coverage.
• **Unavailability of business process assets before project commencement:**
  > Leverage SMEs to customize existing BPA assets as per user’s client’s requirements.
  > Up-skill Agile resources through intensive and quick training.

• **Lack of stakeholder understanding about business expectations:**
  > Implement a continuous change management process to assess the impact(s) of changes; develop appropriate mitigation strategies that account for all changes.
  > Avoid scope creep.

• **Nonavailability of risk assessment and impact analysis:**
  > Make an analytics-led risk assessment and prioritize functionalities.
  > Redefine the forthcoming Sprints based on the criticality of the impact.

• **Nonavailability of scenarios/tests covering the enterprise-to-enterprise (E2E) perspective:**
  > Design scenarios covering impacted E2E business processes.
  > Design scenarios to cover the regulatory impact, and compliance-related tests.

### Looking Forward
As enterprises pivot between legacy and digital worlds, their IT organizations need to create open, intelligent, “on-the-go,” network-driven assurance ecosystems. These systems will drive cost efficiency with automation, increase predictability through intelligent systems and help implement analytics and industrialization through platform-led delivery models.

As enterprises pivot between legacy and digital worlds, their IT organizations need to create open, intelligent, “on-the-go,” network-driven assurance ecosystems.

In highly regulated environments, the stakes are even higher. As enterprises look to transform their business models and adopt digital at scale through Agile development techniques, they must keep a careful eye on regulatory compliance.

By embracing BPA, they will be better positioned to meet regulatory mandates while accelerating digital business readiness and resilience. Doing so will allow them to maintain tight operational controls and identify exceptions, as well as reduce fraud and the cost of quality through reuse, automation and optimization.

### Reference

To learn more about ADPART, visit [https://adpart.cognizant.com/](https://adpart.cognizant.com/).
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