Accelerate application modernization practices with GenAI

Brillio's robust modernization vision helps enterprises offset costs, tailor modular products, and build successful outcomes at scale.

What's missing in application modernization today?

The success of an application modernization project hinges heavily on a well-defined strategy that aligns with an organization's broader goals and stakeholder buy-in. High latencies often occur due to unplanned downtime when creating new features, which leads to subpar product releases and delayed ROI realization. Additionally, domain and subject matter experts are crucial in steering modernization efforts due to their comprehensive understanding of business requirements, budget constraints, user needs, and technical limitations. Without their expertise, there could be gaps between created technical solutions and envisioned business goals, impacting the success of a modernization project. Identifying risks associated with data migration, compatibility, and business continuity requires an end-to-end understanding of an application.

Furthermore, inadequate documentation creates ambiguity since teams may need to pay more attention to potential risks, dependencies, and legacy system constraints. This lapse might impede decision-making, leading to poor evaluation of trade-offs and resource and time wastage for due diligence. In this context, generative AI can solve several hurdles associated with application modernization practices. Modernizing applications with GenAI helps enterprises significantly improve key business metrics, including faster time to market, cost-benefit realization, and enhanced customer experience.

GenAI: A change agent for application modernization

GenAI has sparked a paradigm shift in how organizations approach complex challenges to drive digital transformation initiatives. Application modernization is intricately linked to digital transformation as it represents a crucial component of an enterprise's broader digital transformation journey. While the latter broadly entails leveraging digital technologies to revamp operations and processes, the former is essential in transforming legacy applications to mitigate overheads like capex and continual legacy costs. A robust GenAI application modernization strategy can catalyze the transformation of legacy systems into future-ready applications in several ways:

Automated document generation: GenAI can create comprehensive documentation, including system architecture diagrams, API documents, and user manuals, by analyzing the existing codebase, system behavior, and user interactions.

Code analysis: GenAI's natural language processing capabilities help it understand codebases and provide insights into system functionalities, dependencies, and risks, fostering informed decision-making. Furthermore, GenAI can rewrite legacy code to generate code snippets, modules, or entire components replicating a legacy system's functionality. Iterative improvements and continuous learning will enhance the generated code's quality over time, accelerating the application modernization process.

Decision support: GenAI enhances decision-making by analyzing data from various sources, including code repositories, issue trackers, and user feedback. By applying machine learning algorithms, GenAI can identify trends, patterns, and anomalies, helping stakeholders make informed decisions despite the lack of documentation.
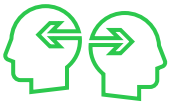
Knowledge transfer: GenAI can facilitate knowledge transfer by creating interactive tutorials, code walkthroughs, and training materials based on analyzing existing code and system behavior. New team members can then hit the ground running by quickly understanding the intricacies of the legacy systems.

Automated testing and validation: GenAI can assist in automated testing and validation by generating test cases, executing tests, and analyzing results. By leveraging ML techniques, GenAI can identify critical test scenarios and prioritize testing efforts, even without detailed documentation.

Continuous optimization: GenAI can support consistent optimization by monitoring system performance, identifying improvement areas, and recommending code refactoring or optimization strategies. GenAI can identify technical debt by analyzing code patterns and user interactions.

Cloud technologies with AI

GenAI's adaptive learning algorithms can enable continuous improvement that adapts to evolving business needs, ensuring your applications remain robust and aligned with your business objectives.

> **As businesses increasingly prioritize agility and scalability with cloud technologies, GenAI emerges as a transformative force in driving successful application modernization initiatives.**

Cloud providers such as AWS AI and Azure Cognitive Services enable developers to integrate advanced AI solutions and capabilities into applications, contributing to faster modernization. Overall, the cloud and AI empower enterprises to modernize their applications holistically via a scalable infrastructure and advanced AI capabilities to deliver innovative solutions to clients.

The speed and cost advantage

Anticipate challenges, optimize resource allocation, and make informed decisions that enhance efficiency and cost savings. More importantly, GenAI can help you accelerate the modernization timelines, reduce development costs, and achieve greater agility in adapting to a disruptive market and evolving business needs.

> **Redefining traditional software practices requires a shift in mindset to embedding AI into every aspect of your application modernization pipeline.**

Here are some essential considerations for leveraging GenAI for application modernization:

- **Intent-based prompt engineering:** Carefully craft prompts to guide AI models by defining clear and specific intents aligned with the modernization project tasks, ensuring that the prompts are unambiguous and contextually relevant. Additionally, incorporating diverse examples and edge cases into prompts helps elevate the AI model's robustness. Integrating intent-based prompt engineering into an iterative software development process will foster agility and responsiveness to evolving business requirements.

- **Human intervention:** Human oversight at every stage of the training and validation phases is crucial to endorse AI outcomes and accountability. During model development and deployment, human intervention will ensure that the AI-driven decisions align with business objectives. Regular monitoring and auditing of AI models allows for timely recourse in case of adverse impacts on users or systems.

- **AI as an enabler at every step, not an accelerator:** GenAI can expedite tasks through automation and predictive analytics. However, it is imperative to remember that AI complements human intelligence and experience. Its primary role is to empower teams, improve efficiency, and facilitate informed decision-making throughout the modernization journey.

Ensure that the benefits outweigh the risks

It's essential to be precautionary regarding AI security bias to ensure the integrity and safety of modernized applications. Implement robust measures to identify, mitigate, and prevent biases in AI algorithms used during modernization. Conduct thorough audits and evaluate AI models to detect anomalies or disparities in outcomes. Furthermore, organizations must prioritize diversity and inclusivity in data sources, ensuring that training datasets are representative and balanced to mitigate unfavorable outcomes. Moreover, post-deployment, ongoing monitoring and validation of AI systems are crucial countermeasures in swiftly addressing emerging biases or security vulnerabilities. Timely verification will safeguard the integrity and reliability of your modernized applications.

Propel your organization to the pinnacle of success with us. Here's how.

Business Case

Improve key business metrics significantly, including faster time to market, cost savings, and enhanced customer experience. For example, by modernizing applications, organizations can expect to see the following business results:

- **Faster time to market for new products and features:** By implementing automation, using agile methodologies, improving engineering processes, and adopting a DevOps approach, our company can achieve an 80% increase in faster time to market.

- **Cost-benefit realization:** Using automation to streamline process execution, we can improve team productivity, resulting in up to 5x cost-benefit realization year-on-year and more time available to work on other initiatives.

- **Application performance improvement:** By using modern technologies and optimizing application performance, we can improve the user experience, reduce downtime, and increase productivity, leading to a 5x improvement in application performance.

- **Cost optimization on security vulnerability remediation efforts:** We can leverage Brillio's automated security vulnerability accelerators.

What we offer

We enhance business growth by unleashing the power of technology through our modernization value propositions powered by AI-driven accelerators and strategic partnerships focusing on improved team productivity, boosted engineering efficiency, reduced cost, and faster time to market. Our core application modernization pillars are:

- Application portfolio rationalization for modernization strategy and roadmap
- App and database migration factory: Optimized TCO and ROI
- Modern digital tech architecture
- API-fication and microservices
- Modernizing for cloud readiness and
- cloud-native apps SaaS-ify apps

- Portfolio, program, and product insights
- Engineering insights: Agility, code quality security, automation (process and test), and team productivity (scaled and remote)
- Cognitive services, infrastructure, and operations insights
- User insights

- DevSecOps: High-performance continuous delivery
- Technical debt optimization

  Infrastructure-as-a-code
- Extreme programming techniques
- Leveraging generative AI

Prioritization and transformation

Value stream insights

Agile at scale

Tangible business results

80% faster time to market for new product features

5x cost-benefit realization within 12 months of production deployment

5x improvement in application performance

70% cost optimization for security vulnerability remediation efforts

75% increase in customer traffic

Expected business outcomes

Our application modernization offerings help businesses to accelerate at an unprecedented pace. Organizations increasingly adopt technology-driven strategies to remain competitive in today's digital landscape.

20% improved performance within three months from the start of engagement

10% increased change stability within three months for visible improvements

15% faster return on investment in two to three quarters

20% higher quality feedback within three months to demonstrate improvements

30% higher customer satisfaction within two quarters to demonstrate improvements

Our offerings

CONSULTING

| DevSecOps blueprinting | App operations assessment | App portfolio rationalization assessment | OPS optimization and roadmap | Development value stream assessment and mapping |

SOLUTIONS

Tech debt optimization	DevSecOps optimization	Portfolio rationalization	Team productivity
Containerization	Monolith to microservices migration	Data migration factory	Legacy app modernization
Low code / No code implementation	Security vulnerability automation	API-fication	Test lifecycle automation

ACCELERATORS

brillio one.ai

one Agile   one Engineering   one Cloud   one CX   one Intel   one Automation

STRATEGIC PARTNERSHIPS

cloudera	vmware	Azure	Xamarin	NETSUITE	teradata.	AUTOMATION ANYWHERE
K2	MuleSoft	Informatica	SAS	CISCO	tableau	SAP HANA	paloalto
alteryx	Metalogix	servicenow	snowflake	IBM	CONFLUENT	amazon web services

About Brillio

Brillio is one of the fastest growing digital technology service providers and the partner of choice for many Fortune 1000 companies seeking to turn disruptions into competitive advantages through innovative digital adoption. We help clients harness the transformative potential of the four superpowers of technology: cloud computing, Internet of Things (IoT), artificial intelligence (AI) and mobility. Born digital in 2014, we apply our expertise in customer experience solutions, data analytics and AI, digital infrastructure and security, and platform and product engineering to help clients quickly innovate for growth, create digital products, build service platforms, and drive smarter, data-driven performance. With 17 locations across the US, the UK, Romania, Canada, Mexico, and India, our growing global workforce of nearly 6,000 Brillians blends the latest technology and design thinking with digital fluency to solve complex business problems and drive competitive differentiation for our clients. Brillio was certified by Great Place to Work in 2021, 2022 and 2023.

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