

Accelerate Your Legacy Modernization: **A Guide to GenAI-Powered Application Transformation**



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Introduction

The urgency for businesses to modernize their legacy systems cannot be overstated. Yet, a concerning 66% of enterprises continue to rely on outdated legacy applications (1), which no longer receive support and are incompatible with newer technologies. The use of such systems introduces substantial operational and security risks, including inefficiencies and heightened susceptibility to cyber threats. This vulnerability is particularly alarming, considering the average data breach in the U.S. costs approximately \$9.48 million (2).

Recognizing the significant implications of relying on outdated technology, business leaders and tech executives are actively pursuing modernization:

- 87% of business leaders acknowledge that modernization is critical to their companies' growth and success.
- Additionally, 91% of Chief Information Officers (CIOs) anticipate increased budgets to further modernization efforts aimed at enhancing business agility.
- Reflecting this trend, the market for application modernization services, valued at \$15.5 billion in 2022, is projected to surge to \$69.8 billion by 2032, growing at a compound annual growth rate (CAGR) of 16.5% (3).

The data presented highlight the strong agreement regarding the importance of modernization for enhancing security, efficiency, and competitiveness in a rapidly changing technological landscape. This shared viewpoint emphasizes the strategic significance of modernization in today's business environment.

Given the consensus, the important question remains:

Why do many businesses still continue to rely on aging infrastructure?

Modernization efforts are influenced by various factors, such as financial limitations and organizational inertia. **One key obstacle is the substantial failure rate associated with these endeavors.**

In fact, studies indicate that as many as 74% of these projects do not achieve the intended results (4), largely due to the complexities of dealing with outdated codebases and unforeseen obstacles. The potential for failure not only emphasizes the challenges involved but also makes companies reluctant to undertake the essential yet risky process of system modernization.

This situation sparks a broader conversation about how businesses can upgrade their critical systems effectively. **Could the development of new technologies, such as generative AI, accelerate this process and reduce the risks that deter them from modernizing?** As companies recognize the need to update their outdated systems, they seek practical ways to improve old infrastructure and ensure sustained progress.

To leverage current technology advancements, consider implementing generative AI in your legacy modernization strategy.

Here are the key benefits of GenAI integration:

- It increases efficiency and speeds up the development process, ensuring smooth transitions between project stages.
- This technology can improve developer productivity by up to 50% and sometimes even 100% in certain tasks (5).
- It aids in understanding complex business rules embedded within the code.
- Generative AI also helps identify hidden relationships and dependencies that are crucial for business operations.

The new GenAI-powered approach focuses on **managing upgrades in smaller, more manageable segments. By dividing the modernization process into parts, each component can be updated, tested, and integrated into the production environment independently.** This method helps to avoid the complications that come from trying to overhaul all systems at the same time, which can lead to significant disruptions and increased risks. Instead, it allows for continuous monitoring and adjustments, improving the system's reliability and stability and reducing the likelihood of issues during the transition. Consequently, this results in a more controlled and secure update process for legacy systems.

This whitepaper will examine how new technologies, particularly generative AI, can accelerate processes and reduce the risks that often stop companies from undertaking modernization efforts. Our analysis will cover the reasons why modernization processes frequently meet challenges and discuss the risks involved. We will also discuss the GenAI tools employed in legacy transformation initiatives, demonstrating how innovative approaches can transform the landscape of system modernization.

Let's begin by examining the challenges typically met in the legacy transformation.



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