



Beyond Lift and Shift: The Modern App Development Paradigm



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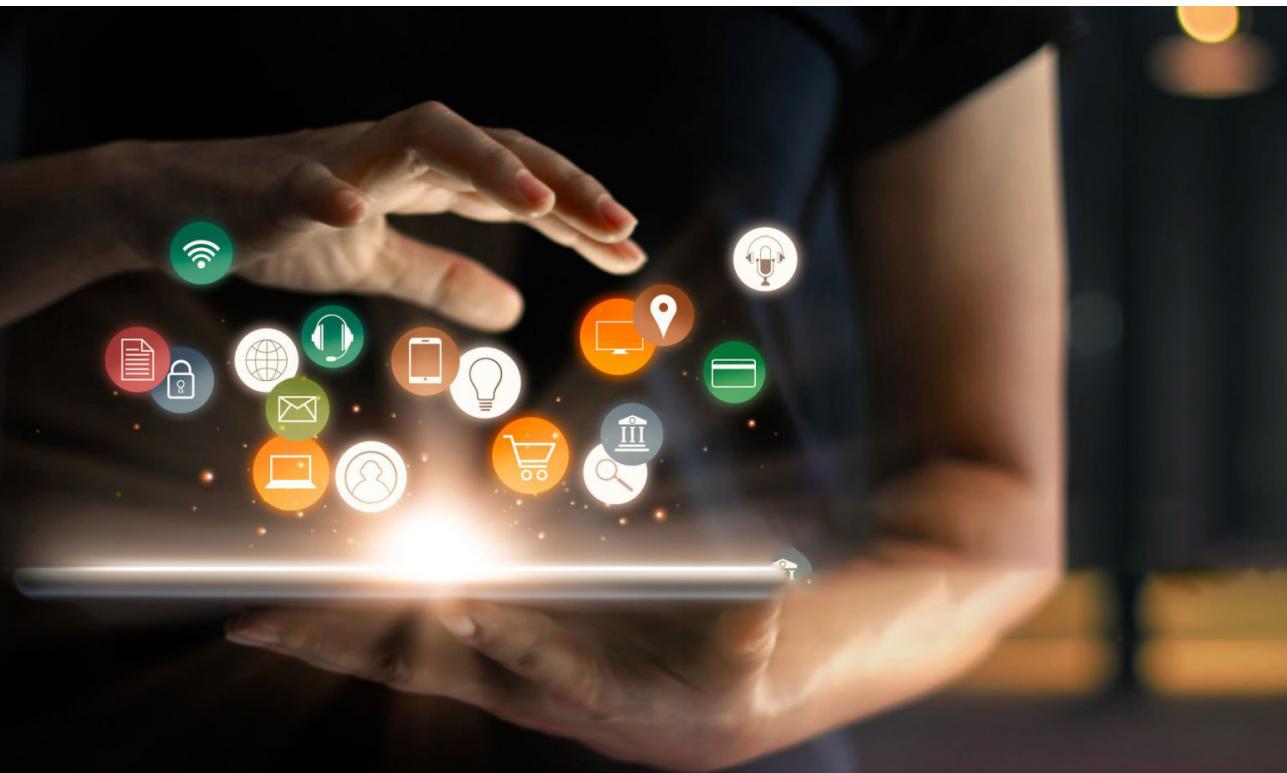
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App Modernization Is Essential to a Digital Organization

Organizations largely agree that application modernization—building and deploying business apps in a way that leverages cloud flexibility and functionality—is an essential step in their digitalization journeys. In a Frost & Sullivan survey of application stakeholders, **78% said streamlining and modernizing software development is crucial to business success**. But the reality is that most businesses are still highly dependent on legacy applications to run their operations. And the task of modernizing the apps can be difficult.

In fact, 54% of survey respondents cited “refactoring or modernizing legacy apps” as a challenge that is hindering their entire hybrid/multi-cloud strategy.

To better understand the challenges and solutions, Frost & Sullivan facilitated a conversation with enterprise IT executives whose responsibilities include application modernization. Highlights from that conversation follow.



Beyond Cost Savings: Business Benefits of App Modernization

Executives agreed that cost reduction is the expected benefit of streamlining the app development and deployment process. But they cited a range of additional benefits, some less expected, that they realized from their initiatives. **Ashish Verma, client technology lead at Microsoft**, cited increased reliability, particularly low-latency access to data, as well as compliance. “The ability to have multi-layered security across end points, across the whole spectrum, is critical when you move to the cloud. You have to think about alignment with the regulations,” **Verma** said.



Jun Zou, VP of IT for Nexstar Media Group, used the media industry as an example of having the flexibility to respond quickly to “meet customers where they are.” He noted: “The TV used to be only in the [living] room. Today, it’s anytime, anywhere, any device. So it’s no longer [about] this legacy model, rather how can we deliver content, produce content at a much faster pace, and also meet customers’ needs regarding what they’re watching, the type of content, where, and what type of device at any time. So developing this new type of application that will help us meet customer needs—that’s probably the biggest benefit for us.”

With the widespread shortage of qualified IT technicians, modern apps also present an opportunity to attract and retain the best and brightest employees. **Zou** stated, “When we’re recruiting, if I tell the candidates we are using a legacy technology, it’s very difficult to hire people. Having a new modern stack makes it much easier to recruit talent.”

Similarly, participants noted that cloud-based development offers valuable workplace flexibility. **Verma** said, “Remote development is so relevant now, especially in this COVID era. Some developers decided not to come back into offices. If the company they’re working for doesn’t offer that option, they’re okay looking for another company that will allow them to work from home. Cloud-hosted development environments, real-time collaboration—those capabilities are out there now and providing additional benefits.”

Zou and Verma’s experiences are shared by many organizations. According to Frost & Sullivan’s 2021 IT Decision-Maker survey, 64% of businesses worldwide cite “attracting and retaining talent” as a top priority, and 61% will offer flexible work locations and remote work options as an incentive.

Technical and Organizational Challenges Can Derail App Modernization

Modernizing legacy applications is not as easy as “lift and shift” into the cloud. The enterprise IT executives identified pitfalls that organizations can face as they start their initiatives. Several pointed out that a poorly designed app does not miraculously become efficient once migrated to the cloud. **Neil Waller, managing director**, Application Modernization at DXC noted that “eliminating technical debt is often a paradox; you need to upgrade the infrastructure ground up, but it’s the re-imagination of data and business services top-down that drives the super savings.”

Safiya Henry, AVP of Digital Strategy and Transformation at **MetLife**, agreed. She noted that organizations are eager to start their modernization initiatives but must pause to consider if they are ready: “Wait a minute, how’s our data quality? Wait, are we ready, really, to modernize on top of that if we haven’t solved some of these fundamental issues?”

Jun Zou pointed out that the modernization effort may be more complex than anticipated. He said: “Moving towards microservices is great, but microservices have their own complexity, like service discovery. When you have one service [that] goes down, in theory, you could bring it up quickly, but what’s the cascading impact? One service failure could cause other service failures. So, just simply going cloud native doesn’t necessarily address all the problems.”

Participants also noted challenges related to organizational change management.

Verma said: “Getting the business to adapt to new software, that in itself is a challenge. Success criteria must be understood. Whatever is developed, it has to meet the needs [of end users and developers], otherwise, adoption won’t happen.”

Henry discussed her organization’s shift in thinking from individual components to the overall application: “Part of our journey has been figuring out that we’re not just talking about this app team over here and then an ops team over here and maybe some engineers over here, and assuming that magically, we’ll all come together and create a solution. It’s about having one team focused on delivering this one product.

And once this focus is in place, the next step is aligning the organization to meet that goal.

Henry’s experience is echoed by 37% of respondents in Frost & Sullivan’s 2022 IT Decision-Maker survey who identified “functional siloes” as continuing to hinder the implementation of an organization-wide approach.

Should Change Come Top Down or Bottom Up? It Depends

Each organization is unique, and so the approach to application modernization should also vary. The IT executives noted that change can be driven effectively from the executive level (top down) or from the user/application owner level (bottom up). **Waller** noted: “It is well known in the industry that organizational design is the most important ingredient in a modernization program—empowering all levels of that organization with metric information to accelerate specific decisions and drive a higher performance. Popular obstacles include not knowing the metrics of the optimal solution in the industry for that context, or even your TCO to drive the financials, but these can be easily provided and break the barriers to starting.”

Henry agreed that there is no single best solution. She said: “I think in large enterprises, we have a tendency to try to look at everything holistically because we feel like that will give us the best optimized path forward. We don’t need to repeat the same thing multiple times if we take a strategic approach across and do it all at once. But then in other markets, in other organizations, you might be able to integrate more change faster by taking the bottom-up approach and doing it at a granular level.”

Verma pointed out the value of a quick win: “You need to start with low-hanging fruit, identify quick wins to prove out that the methodology actually will work, that the right software is being selected and the first team is culturally ready and that they have success. When they have success, then you use that group as an internal reference for all of the other groups that are hesitant.”

The most important point is that all stakeholders must be aligned on the strategy. In Frost & Sullivan’s survey, 45% of respondents identified “gaining support from business leaders and stakeholders” as a significant challenge to their modernization initiatives.

Key Success Factors for App Modernization: Final Tips from the Experts

The executives summarized their own learnings via tips for a successful initiative.

- **Think about the initiative holistically.** “It’s more than just thinking, ‘Okay. We have an app we need to build that’s going to go onto this infrastructure.’ Start to think end to end, think about the overall product that you’re building, the experience, all the way down to the bare bones of what it’s running on.” - **Safiya Henry**, AVP of Digital Strategy & Transformation at MetLife
- **“Planning is very important** so that everyone is aware of what their responsibilities are. Generally, what we saw is people are working in different spaces. IT is working in their own space. Finance is working in their own space. Business is working in their own space. There was actually no collaboration at the beginning [of our initiative]. But as the process evolved, the business came into the picture. Everyone has to be on board early in the game whenever any decision is taken.” - **Finance executive**
- **“Listen to the pain points of the local business units.** The approach we took was to bring everyone together, mainly the key business units, and to analyze our application portfolio and our infrastructure portfolio from a business perspective. Instead of a technology exercise, it should be a business initiative.” - **Jun Zou, VP of IT for Nexstar Media Group**
- **“There is value in having an executive sponsor,** not just for messaging, but active participation and holding those accountable that are actually executing on the projects. It requires that to actually make the change. Technology on its own won’t drive that cultural adoption.” - **Ashish Verma, client technology lead at Microsoft**

The Last Word

App modernization brings cloud-native characteristics to monolithic legacy applications, ensuring that apps can be quickly and efficiently developed, changed, integrated, and deployed. Our IT executive participants agreed that app modernization is essential, providing organizations with the foundation for business agility, consistent app performance and security, and cost-efficiency. As such, the effort should not be considered a technology or IT-driven project, but a company-wide initiative involving representatives across the business. Such a holistic approach makes it easier to get it right; that is, it diminishes technical debt. It also helps address cultural resistance to change.

Participants also agreed that modernization is a journey that may take many forms and stages, from moving virtualized apps to the cloud, to containerizing applications, to refactoring. But perhaps most interestingly, app modernization requires a new way of thinking about the relationship between infrastructure and code. Waller identified the key value of app modernization: “Converting the cash locked up in the legacy into fuel for new business services, which are built on applications born in the cloud.” Ultimately, application modernization drives the flexibility that digital organizations need to succeed.





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