WHITE PAPER

Building a Foundation for Resilience through Enterprise Modernization
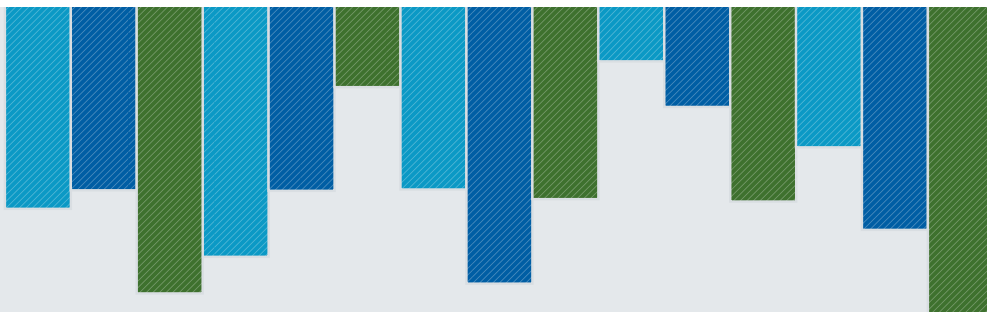
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Today's businesses are faced with constant disruption, from economic shifts to disruptive start-ups and emerging technologies. No longer can companies operate with fixed solutions without risking their competitive advantage. Enterprise modernization looks at an organization's entire technology estate to determine what changes will enable the business to be more flexible, adaptable, and resilient. Enterprise modernization has become a business imperative.

Many businesses have recognized the importance of evolving their capabilities, but often their efforts stall and organizational fatigue sets in due to risk, cost, and the sustained, collective effort that this evolution requires.

When working with some of the world's biggest enterprises to achieve their digital transformation goals, we look at corporate digital initiatives through a broad lens, digging into a company's core value chain of operations, structure, talent, and technology. We've found there are often disconnects in the chain, caused by legacy business models that served us well in the past but are under threat today.

To break through, technologists and board members need to understand the value drivers and detractors of each other's worlds. This paper explores how technology leaders can demonstrate and communicate value to their executives throughout all phases of enterprise modernization projects.

Executives and investors care about long-term and short-term goals. Executing on a long-term technology strategy requires significant effort, but you can get stakeholders on board faster and keep them motivated by delivering value in shorter cycles and celebrating wins early. Rather than creating a fixed, inflexible plan, organizations need to create the space for an adaptable strategy. This effort ensures that it can support an ever-changing business environment and incorporate what you learn as you deliver value, early and often. Enterprise modernization is not just about upgrading technology; it also allows teams to deliver business benefits—such as improved customer experience, retention, increased sales, or cost reduction—faster.

When delivering the value promised to business executives, technology leaders should remain steadfast in demonstrating the strategic value of enterprise modernization and be able to articulate the critical metrics that can justify major capital investments.

When leaders remain relentlessly focused on value, creating a shared value language, and holding one another accountable to those drivers, modernization projects can be successful.

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Building a Foundation for Resilience through Enterprise Modernization

Today's dramatically accelerated pace of digital transformation has forced companies to scramble to serve customers through new channels and to reach new markets. Companies that had successfully shifted their approaches prior to the pandemic had already demonstrated the value of, secured leadership buy-in for, and made investments in enterprise modernization (EM) to support their ability to change.

"The pandemic has accelerated interest in digital and, by extension, resilience. If a company had invested resources into digital prior to Covid-19, they are better off today," says Tomoko Yokoi, researcher and adviser in digital transformations at the Global Center for Digital Business Transformation, a Switzerland-based nonprofit that advises on digital transformation. Indeed, while a Gartner study found 69% of boards have accelerated digital business initiatives in response to Covid-19,[1] only companies that had already established firm roots for e-commerce business prior to the pandemic could effectively shift to digital business models, according to Yokoi.

Also referred to as legacy modernization or IT modernization, EM is "the advancement of an organization's technology, operations, and processes in service of tangible business outcomes," including creating resilient businesses capable of changing course to pursue new customers and markets during disruption.[2]

Traditional companies employ EM to build and continually enhance their operational backbone—including integrating data systems across business units, products, and services—to measure ongoing financial performance of various verticals and offerings and to facilitate cost savings. More important, to build enterprises capable of shifting direction to seize competitive advantage, the technology function should be equipped with a narrative—including ways

HIGHLIGHTS

For large, traditional companies, agility is **only possible with the kind of solid operational backbone** that enterprise modernization (EM) allows.

To seize competitive advantage, the **technology function should be equipped with a narrative**— including ways to measure value— in order to secure leadership and board buy-in for major capital investments for EM.

Technology leaders must be **equipped with salient metrics to demonstrate the value of EM** and to justify the major capital investments needed to build resilience.

Traditional companies employ EM to build and continually enhance their operational backbone.

to measure value—in order to secure leadership and board buy-in for major capital investments for EM. Only companies that possess an EM-enhanced operational foundation have the kind of computing power that makes resilience possible. Businesses need powerful systems they can use to leverage software to collect and analyze data, says Frederik Kraus, chief technology officer of AutoScout24, a European online car marketplace, invoking internet pioneer Marc Andreessen's famous statement that "software is eating the world."

This paper addresses ways technology leaders can elevate awareness of EM, educate executives on its value as a foundation for resilience, and leverage metrics that demonstrate technology's role in value creation. It also includes approaches by which enterprise modernization can serve as a platform for experimenting like a digital-native company to enhance customer centricity, insights on how EM can help transform the organization by positioning technology as a digital transformation driver, and ways EM can allow technology to capitalize on the organization's existing value proposition.

Elevating Enterprise Modernization

Companies can take a big stride toward enhancing their digital capabilities by elevating leadership and board awareness of EM as an enabler for digital transformation, according to Yokoi. But first, she says, IT faces the reality that "many board members lack awareness about digital transformation technology enterprise architecture." Moreover, even as 64% of executives surveyed for an August 2020 Harvard Business Review Analytic Services' report say insufficient tools and inflexible infrastructure hamper efforts to deliver a personalized and intuitive customer experience,[3] technology leaders report that organizational culture limits their role in technology activities,[4] which compounds the challenges that must be surmounted.

Yokoi adds that most big company boards lack technology committees—in contrast to the "tech-aware boards that have technology committees and put them at the same level as the audit or strategy committee."

To gain leadership support for adequate EM investment, technology leaders must help executives "understand the importance of the infrastructure providing the stability for, and the groundwork of, your digital transformation IT infrastructure," says Yokoi. But while leadership tends to be attracted to "shiny new things," she says, sustainable

digital transformation is only possible if companies have IT infrastructure that's stable and flexible.

In short, technology leaders can build a business case for investment by giving leadership examples of business results achieved through EM—and how the technology function can work with the business to make change happen.

To achieve strategic results through EM, says Monty Hamilton, chief digital officer at TELUS, a Canadian telecommunications company, companies must recognize their core competencies, get out of traditional silos, and create architectures that align with their operational and business partners. Action items might include a "shift from on-premises data centers into the cloud to free up capital, and treat software as a core competency," explains Hamilton, who leads a team of 400 full-time digital delivery practitioners responsible for developing software across TELUS.

Hamilton says a focus on software programming allows the organization to meet change resiliently. For example, TELUS Health, a subsidiary of TELUS, applies machine learning and artificial intelligence (AI) to patient-doctor interactions across millions of customer phone calls and houses the voice data in the cloud, enabling analysis that reveals what makes customers upset or pleased with a given customer service interaction. To wit, EM is about "being good at using data, not just storing it," Hamilton says.

According to Charles Lewis, vice president and chief technology officer at TELUS Health, even though the traditional health care industry has been slow to evolve from being paper-based, the company has executed a successful digital evolution. Lewis illustrates how talk-to-text allows physicians at TELUS to spend more time and energy interacting with patients by reducing the need to type information into databases—an activity intended to free doctors from writing on notepads but that instead created a laborious activity that took attention away from patients.

Making Value Creation Possible

To secure executive buy-in for EM, technology leaders must be equipped with salient metrics to demonstrate the value of EM and to justify the major capital investments needed to build resilience. Indeed, AutoScout24's Kraus doesn't use technology-specific key performance indicators to procure management's commitment for major EM investments. He believes the purpose of technology is simply to create value for the business. "You shouldn't be doing technology just

> "The more interactions the board can have with the CIO, the better the conversations related to digital innovation and technology investments" are going to be, says Tomoko Yokoi at the Global Center for Digital Business Transformation.

for technology's sake," he says. Rather, technology leaders must approach technology as a value driver by tying EM investments directly to business metrics and outcomes like revenue and growth.

Kraus views the technology function that provides software and the business function as equally essential. Accordingly, he says a fundamental mindset shift both in IT and among leadership is needed to mobilize the full potential of today's newest technologies. He cites the move from data warehousing to cloud data services—like the Amazon Web Services (AWS) "data lake"—as one big reason why companies need to make the large capital investments necessary to move faster by leveraging cloud software services that analyze data to deliver insights.

"There's a lot of innovation happening in machine learning and AI," Kraus explains, meaning that a company with its own data storage and software tools would not have access to the latest software and analytics—including machine learning—and would be hard-pressed to build them without a prohibitively massive investment. Data in the cloud allows AutoScout24 to enable its customers to find the cars best suited to their needs. In contrast, a legacy world data center would fail to provide access to the software and data needed to serve their customers at scale.

The more data you have, Kraus says, and the more granular the data is, the cheaper it becomes—and the more you can shorten time to market and build resilience. In a nutshell, EM enables a company not only to enhance its offerings but also to accelerate speed to market.

Telling Your Value-Creation Story

Obtaining buy-in for big investments requires appealing to a leadership audience concerned with delivering business value—in essence, building a narrative that connects IT with the value it can create through EM.

Lewis emphasizes that the TELUS Health technology team works closely with the company's leadership team to provide value for customers. A critical part of the collaboration is to provide education and partnership, he says. "You can't operate in a vacuum from a technology perspective," he points out. What's needed is an understanding, based on the strategic goals of the company, that a technology investment makes sense. Then it's up to IT to "show them how you can take them there."

According to Yokoi, "the more interactions the board can have with the CIO, the better the conversations related to digital innovation and technology investments" are going to be. Technology leadership must appeal to perspectives ranging from chief executives to parent-company ownership and board members. According to Jill Thomas, chief marketing officer and chief experience officer at the PGA Tour Superstore (PGATSS), "knowing your audience is essential," including having a deep understanding of your organizational composition— and the decision makers and influencers. "They're human and all wired differently," says Thomas, noting that she has three bosses—the CFO, the CEO, and the CEO of the parent company AMB Group—each of whom places varying degrees of importance on metrics like ROI, short- and long-term sales, customer experience, and other value measures.
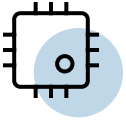
"The number-one thing is for technology to be represented at the highest level of the company," says Tomas Varsavsky, chief technology and data officer at REA Group.

Across all measures, Thomas emphasizes that "as marketing leaders, we have to be great storytellers" to be able to illustrate "what's in it for the business and how the customer wins." She describes how technology leaders must be able to put the executive in the shoes of a customer—for instance, an individual who has shopped at the PGA Tour Superstore for 10 years, and buys a Ping driver every three years, is likely a brand loyalist, and wants to hear about other Ping products but not necessarily about other brands when visiting the website.

In essence, technology leaders should be prepared to highlight examples of how EM and the digital transformation it enables work to enhance the customer experience, build loyalty, and drive sales rather than merely provide endless datapoints. Moving forward through disruptive change requires a partnership, Thomas says.

At many companies, however, particularly those that are publicly held, IT doesn't have the ear of the chief executive, according to Tomas Varsavsky, chief technology and data officer at REA Group, an Australian global digital business specializing in property. "The number-one thing is for technology to be represented at the highest level of the company," he says. But technology leaders face high perceptional hurdles. Varsavsky believes leadership at many large, traditional companies view enterprise technology as not only expensive but also slow to achieve business outcomes. For this reason, IT needs to educate leadership about what it does, its costs, and the benefits it creates for the business.

One of the most undervalued technology leadership skills may be the ability to appeal to management using "stories" that demonstrate how EM builds value. A hurdle is that "as technologists, we're actually pretty poor at demystifying the cost of maintaining and upgrading technology and connecting it to business outcomes," he says. His solution is to connect the organization's business strategy and goals for the next three years with technology application data during that period to show leadership how IT makes the business

operate "better, faster, or cheaper." Moreover, demonstrating IT's efficiency will enhance leadership confidence in its use of operating expenses, along with its ability to gain buy-in for capital expenditures.

Varsavsky evaluates the operational efficiency of technologies by conducting comprehensive, granular technology assessments across the enterprise that assess the following:

- **Operational efficiency:** Lower technology-systems maintenance costs often correlate with greater IT operational efficiency.

- **Application adoption:** Higher levels of employee adoption across technologies often point to elevated technology impact across the enterprise.

- **Productivity:** Productivity stems in significant part from the ability of technology products to support high levels of engineer programming activity.

- **Asset health:** The level of effectiveness of as many as 1,000 enterprise systems is critical to gauge asset health and gain data for troubleshooting and optimization across the organization.

He deploys key metrics to help leaders see technology as the foundation for realizing customer opportunities and revenue streams. While measuring consumer engagement and satisfaction is critical—because "the bigger the audience IT can engage, the more value we can provide" and demonstrate—he says "the ultimate metric of success is revenue" tied to specific technology investments.

Experimenting and Testing Like a Digital Native

The right EM approach not only integrates data across systems but also supports flexible organizational processes that enable innovation, according to Martin Mocker, research affiliate at MIT Sloan School of Management, allowing traditional companies to acquire greater agility and resilience. TELUS Health's Lewis believes digital natives demonstrate the importance of applying a relentless customer value-delivery mindset to operations. In contrast to brick-and-mortar companies, using technology to create value at digital natives, Varsavsky says, is about being agile, constantly and rapidly evolving the business model live in the market to discover new ways of creating value. Adds Lewis, "Digital companies have built that agile and rapid mindset, that value-delivery mindset, throughout their business."

Mocker explains how a digital-native approach can be applied to traditional businesses. In an agile way of working, it's normal to be "undertaking a continuous stream of experiments to offer value to the customer [that are] linked to the mission," he says. Such an approach provides
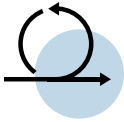
"Digital companies have built that agile and rapid mindset, that value-delivery mindset, throughout their business," says Charles Lewis, vice president and chief technology officer at TELUS Health.

a model for a rapid, iterative way of working because system platform modernization across the enterprise isn't just about IT systems; rather, it reflects a new operating model that can help traditional companies learn what the customer needs more quickly by avoiding strictly hierarchical decision making. For example, traditional companies can form autonomous teams in separate units, such as digital experience labs, including working with agile coaches, to pursue innovations. Instead of inhibiting innovation by keeping unsuccessful products on the market, they can rapidly test and deliver new offerings at scale if they achieve customer adoption. According to Mocker, "as long as the initiatives are linked to your mission, something is only a failure if there's no learning transferred to the larger organization."

Varsavsky says resilience means being able to adapt under changing conditions, which requires teams that are autonomous and empowered and a corporate culture that frees IT to operate strategically. Technology adoption can enable resilience, and digital-native companies offer best practices that can help technology leaders make the investment case for taking an agile approach. Metrics must be relevant to the existing business and how EM adds value for customers—not just for the IT department—such as an investment firm improving customers' retirement readiness, a health maintenance organization enhancing health care outcomes at lower costs, and an energy company providing lower-cost energy options, explain Jeanne W. Ross, Cynthia M. Beath, and Martin Mocker in their 2019 book, *Designed for Digital: How to Architect Your Business for Sustained Success.*

When it comes to making the case for a large capital investment, Hamilton asserts that while ROI is the most important metric for success, companies' definition of the term needs to be expanded to be more future-oriented and to incorporate the capabilities that technology enables for teams and customers that may not have an immediate payoff reflected in next year's financial reports. Lewis provides examples of such enhancements, including telehealth services accessed by TELUS Health customers during the pandemic, better data security, and sharper resolution of the screen that a doctor is looking at when treating patients.

But it's no mean feat to progress from making the case for continued operating expenses—based on ROI (demonstrated in the past)—to justifying capital investments (to reap benefits in the future). To build concrete cases for investment, MIT's Mocker discusses undertaking "experiments to test ideas and demonstrate the value of EM that can be expanded and multiplied." The test-and-learn process helps software-based companies develop a minimum viable product to release to customers for immediate feedback based on how it can be improved or jettisoned. For example, take an electric company launching digital services for asset management (predictive maintenance, energy resource management and budgeting, and machine remote monitoring) or a bank testing and enhancing offerings for more widespread rollout, as noted in *Designed for Digital: How to Architect Your Business for Sustained Success.*

An alternative to testing a minimum viable product is to adopt an approach used successfully in another industry. Soon after the pandemic struck in March 2020, according to PGATSS's Thomas, the retailer began offering curbside pickup—an offering that has been used in Thomas's prior industry (hospitality/restaurants) for years. PGATSS has 44 physical stores around the country, but according to Thomas, ever since the pandemic started, the retailer's aim has been to capitalize on synergy between brick-and-mortar channels, not focus on one or the other. "The customer is the 'channel,'" she says, emphasizing that PGATSS differentiates itself from other retailers by providing a superior customer experience within and across the two channels.

The bottom line, according to Mocker, is to identify if there is a customer problem and to show how to address it using a solution that customers will pay for and that can be scaled to facilitate adoption. For example, he discusses a hospital's radiology department, which would benefit from more efficient patient intake, customer flow, and treatment to yield a better customer value proposition. First approved only by the chief executive, the "experiment" is conducted on the limited scale of the radiology department, allowing the organization to test an approach that doesn't require enterprise-wide approval but could later be rolled out in the hospital if it works and gains wider acceptance, Mocker says. This approach is echoed by TELUS Health's Lewis, who says, "Health is a very traditional industry that's hard to crack. You need to show incremental success or provide a proof of concept to build trust in larger investments."

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Building on Traditional Roots

Although traditional companies must continually evolve, Yokoi notes, they need to recognize their core value proposition rather than simply attempting to behave like digital natives. Whereas digital-native companies have the customer-centric approach to constantly iterate using the agile method, she says, legacy companies need to know what their core is and to have a scouting pipeline of new technologies that can work with both physical and digital assets. She describes a mining company that maintains safety and manufacturing standards using digital sensor technologies to detect whether a small defect that was happening within the operational environment could lead to a failure.

TELUS Health, for example, has a traditional infrastructure but offers a virtual health care service that provides 24/7 real-time access to medical professionals via a mobile device by voice, text, or video—and customer adoption of this service has been accelerated by the pandemic. "TELUS's full embrace of technology as a strategic driver allows it to recognize when to take a risk that you weren't willing to take before," Lewis says.

For large, traditional companies, agility is only possible with the kind of solid operational backbone that EM allows. Integrated data systems, according to Mocker, allow companies to view metrics across myriad products and services. They not only demonstrate to boards the enhanced value of EM initiatives based on cost savings but also bring together cross-product metrics to enable innovation to get

to market more quickly and serve the customer better; this approach includes generating ideas for potential minimum viable product offerings. Since EM represents changes that go beyond regular maintenance and carry bigger costs, a business-focused approach is necessary to demonstrate their value to leadership. Additionally, board members are generally not technical and require straightforward explanations of proposed changes, including a cost-benefit analysis showing the effect of making the changes versus the impact on the business if the decision was made to do nothing.[5]

Being a digital native means a company can execute from a purely digital standpoint, but traditional companies should avoid blindly imitating digital pure plays. Digital-native companies may start out not caring about their enterprise systems, but then they expand and realize they are complex messes that require addressing, Mocker says. Hamilton emphasizes that each company's approach "needs to be your recipe, reflecting your customer and cultural traits." Indeed, Yokoi says, "There's too much hype about how [traditional organizations] leverage best practices from digital-native companies."

EM supports every large company's ability to execute digital transformation, be resilient, and compete, according to Varsavsky, who discusses how a logistics company straddles the physical-virtual line, delivering tangible products through its fulfillment center but also offering a digital experience that includes keeping customers updated in real time.

Hamilton notes valuable assets that traditional companies possess and digital natives may lack are the value of their data and IP, which can be leveraged by health care companies like TELUS Health. As illustrated earlier, another way traditional companies can distinguish themselves from digital natives, according to Thomas, is by creating synergy between their physical and digital retail presences. And companies with large supply chain operations can use new digital technologies to map where goods are coming from and when, says Yokoi. This approach has enabled manufacturing companies to make sure that their supply chain is not disrupted during Covid-19, she explains. Moreover, technology infrastructure has also enabled new capabilities whereby "companies use a virtual service to view operations and certify processes in place of physical inspections," Yokoi says.

Conclusion

Being prepared for the current disruption—and the next—means nurturing an ecosystem of enterprise technology that can evolve based on market conditions. Companies that secured executive and board buy-in to make EM capital investments are the ones that established modern enterprise technology with interconnected, flexible systems prior to the pandemic—and are acquiring new customers and gaining market share today.

Continual EM investments create an operational backbone that supports innovation, enables the testing of new offerings, and helps serve customers nimbly. What's more, EM provides the stability that allows brick-and-mortar companies to apply an agile mindset and approach to evolve through change, adopting the approach of digital natives that Mocker says "co-create products with customers, beginning with minimum viable products and refining them through experimentation."

"Technology product development is in our DNA because technology itself is a strategic asset to manage and keep updated," Varsavsky says of REA Group, a digital native that operates like "a 25-year-old startup." But leveraging EM as a digital transformation driver can allow organizations that weren't "born digital" to use enterprise technology as a foundation to capitalize on their core value proposition and to realize continued success. Relying on a technology backbone optimized by EM, traditional companies can harness digital capabilities to become more resilient—whether by connecting operational silos to analyze data and extend product lines, monitoring supply chains to minimize interruptions, or providing remote inspections to prevent factory outages. According to Thomas, "The pandemic has pushed companies to be agile and change to prepare ourselves for any situation that we might find in the future."

Most important, to demonstrate why EM merits major investment, the CIO should be ready to approach leadership

"Beside digital natives, there are just two kinds of companies: a mature company that constantly invests in technology, and one that has become stagnant," says Jill Thomas, chief marketing officer and chief experience officer at the PGA Tour Superstore.

equipped with a story showing how technology can enable the organization to capture market opportunities.

Measures like operational cost and efficiency and audience engagement, will comprise but minor components of a narrative that encompasses how EM makes value creation possible. The story begins with how EM provides a platform to leverage new technologies to progress along the continual process of digital transformation to meet new customer needs in innovative ways; develops further with how EM enables the company to tap into wellsprings of value like cloud computing to create new services and deliver speed to market in disrupted markets; and culminates with how EM enables traditional companies to adopt digital-native methods of evolution while continuing to capitalize on their core strengths.

While organizations that were unprepared even for remote work have struggled to stay afloat, those with advanced collaboration systems in place—and that are embraced by their workforce—are busy innovating, launching new services, and meeting new customer needs.

According to Thomas, "Beside digital natives, there are just two kinds of companies: a mature company that constantly invests in technology, and one that has become stagnant."

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