IS TECHNOLOGY DEBT
BANK RUPTING
YOUR COMPETITIVENESS?

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In the quest to innovate and drive the digital agenda, many C-suite executives underestimate the true cost of their technology estate. While they may grasp technology's annual run cost, they may fail to appreciate the total cost of ownership for accumulated shortcuts, mismanaged decisions and misguided investments embedded in their company's technology architecture, people and practices.

Legacy environments carry both an operating cost and a cost of change that becomes prohibitive as technology debt continues to pile up. Unmanaged debt will increase organizational costs and reduce agility over time. Technology debt can—and should—be measured and tracked the same as any other liability to the business. As digital companies continue to push frontiers of innovation and performance, traditional players who do not confront the full scope of their technology debt risk getting left behind.

LEGACY'S DRAG ON THE BALANCE SHEET

Digitally-enabled companies such as Jet, Etsy and Warby Parker entered established industries and quickly started making waves.

Even without the benefit of history or established relationships behind them, these new players have rapidly grown their customer bases and valuations in just a few years. They have gained momentum and market share by leveraging their innate ability to be nimble and flexible as digital natives. This agility is due, in part, to the lack of technology debt and a new way of thinking about technology architecture. Digital players have found that an asset-light, plug-and-play approach is more effective than a buy-and-hold, empire-building mentality. This fundamental shift in thinking about IT can help traditional stalwarts remain competitive.

Accenture Strategy recently worked with a financial services company weighed down by increasing infrastructure and systems complexity as well as growing implementation and maintenance costs. The technology debt was slowing the company's ability to bring products and services to market and impeding its digital agenda.

Accenture worked with the enterprise on a multi-speed approach for measuring performance and its existing technology suite, then helped establish spending priorities in digital that would yield the best returns. This enabled the company to keep pace with its growth initiatives while clearly delineating areas of technology debt to address and eliminate.

Remaining competitive means being able to build and work in the digital landscape. The digital model fuels key competitive differentiators, including the ability to extend transactions into experiences, to connect with customers and suppliers anytime and anywhere, and to translate data into strategic insights. While new entrants are built to thrive in this landscape and focus solely on using it to their full advantage, established companies are trying to embrace the new while maintaining the value of their tangible and intangible investments.

Unfortunately, the contribution and value of legacy to the enterprise have decreased, while the stakes for becoming digital have increased. According to the Accenture Digital Performance Index, which measures individual companies and industries on digital readiness factors, digital high performers scored 44 percent higher on growth than companies that are less digitally advanced and 48 percent higher on future value.[1] These high performers are almost exclusively new entrants like the innovators mentioned above.

While new entrants are taking advantage of digital opportunities, technology debt is pulling traditional companies even further behind. The compounding effect of technology debt drags on the operating budget and has a profound impact on delivering and sustaining innovation. In addition to the pure principal, interest and liability costs of technology debt, the opportunity cost can inhibit strategic investments and product innovation for established players.

THE PUSH AND PULL OF INNOVATING IN AN OUTDATED ARCHITECTURE

Executives recognize the need for a digitally-driven approach while also acknowledging the constraints of their current environments.

Accenture Strategy asked executives about the interplay of old and new and found that 85 percent of executives believe that legacy hinders their ability to move to a more digital model.[2] Working with organizations across a variety of industries, Accenture Strategy has seen the impact legacy has on the ability to move forward. A typical client's IT budget may allocate up to 90 percent on maintaining the current state and just 10 percent on innovating and developing new capabilities.

In response to the push and pull of innovation versus legacy, enterprises try to address their technology debt with a short-term, tactical view. Short-term approaches are not only ineffective in managing debt, they may actually add to it. Instead, organizations need to take a step back and plan strategically across all technology platforms, processes and people.

TECHNICAL VS. TECHNOLOGY DEBT

Technical debt is widely understood to be the sunk cost of hardware, software, lines of code, storage and other tangible aspects of the estate. Accenture Strategy expands the idea into technology debt, which encompasses all inefficiencies within the technology function today. Technology debt includes:

Principal
Cost of remediating code / applications / architecture / infrastructure (i.e., technical debt)

Interest
Incremental IT costs for adjusted / new processes, interfaces, maintenance or additional people

Liability
Additional business costs from outages, breaches or corrupt data

Opportunity Cost
Benefits that could be achieved with new products and features, and opportunities hindered by system inflexibilities or inefficiencies

A good place to start is with some basic but critical questions:

1. **How do we segregate our IT and product portfolio based on customer experience?**

   This gets to the heart of the past, present and future of a business model. Which products and services need to be maintained, and how does a company balance expectations of long-term customers with new?

2. **How do we address older technology architectures and associated processes that are creating unnecessary drag on the balance sheet?**

   Answering this question is essentially creating the strategy for technology debt, but also needs to take into account how to transfer whatever value lies in existing systems into any new approach.

3. **What market services can we adopt, buy or build?**

   More organizations are weighing a buy-and-hold versus the preferred asset-light approach to technology. This question can also drive discussion about how best to partner with other companies in the digital ecosystem.

4. **What current decisions will we need to revisit in six months, one year or beyond?**

   This may be the hardest yet most important question of all. A company eager to complete a merger, for example, might easily end up living with duplicate platforms (and processes and people) into the foreseeable future. This is by necessity a business question as well as a technology one.

   Answering these questions is a good way to start moving toward a multi-speed IT environment where technology debt can be slowly eliminated or minimized while new products, offerings or capabilities are released.

TECHNOLOGY DEBT HAS MANY CO-SIGNERS

The challenge of multi-speed IT—pursuing an innovation agenda while maintaining everyday operations and improving performance— usually falls on the shoulders of the CIO.

In fact, the lack of C-suite ownership may be mortgaging the future of the business. While leaders from across the business share credit for digital successes and are clamoring for tech innovation for their business units—many are quick to assign the drag of legacy to IT alone.

Most C-suites and boards do not include IT expertise that can help put technology debt and the challenges of multi-speed IT into the right context. In financial services, for example, only 6 percent of board members have professional technology backgrounds, and 43 percent of the banks analyzed don't have any board members with professional technology backgrounds.[3] As a result, corporate leadership is not engaged enough in understanding and managing the business bottlenecks and instituting systemic change.

Yet, sharing responsibility beyond IT offers a strategic advantage, since high performance businesses are more likely to involve finance leaders in assessing, prioritizing and managing technology investment decisions. But there is still room for improvement, since just 23 percent of high-performance businesses say their CFOs are active in identifying which technologies should be retired.[4]
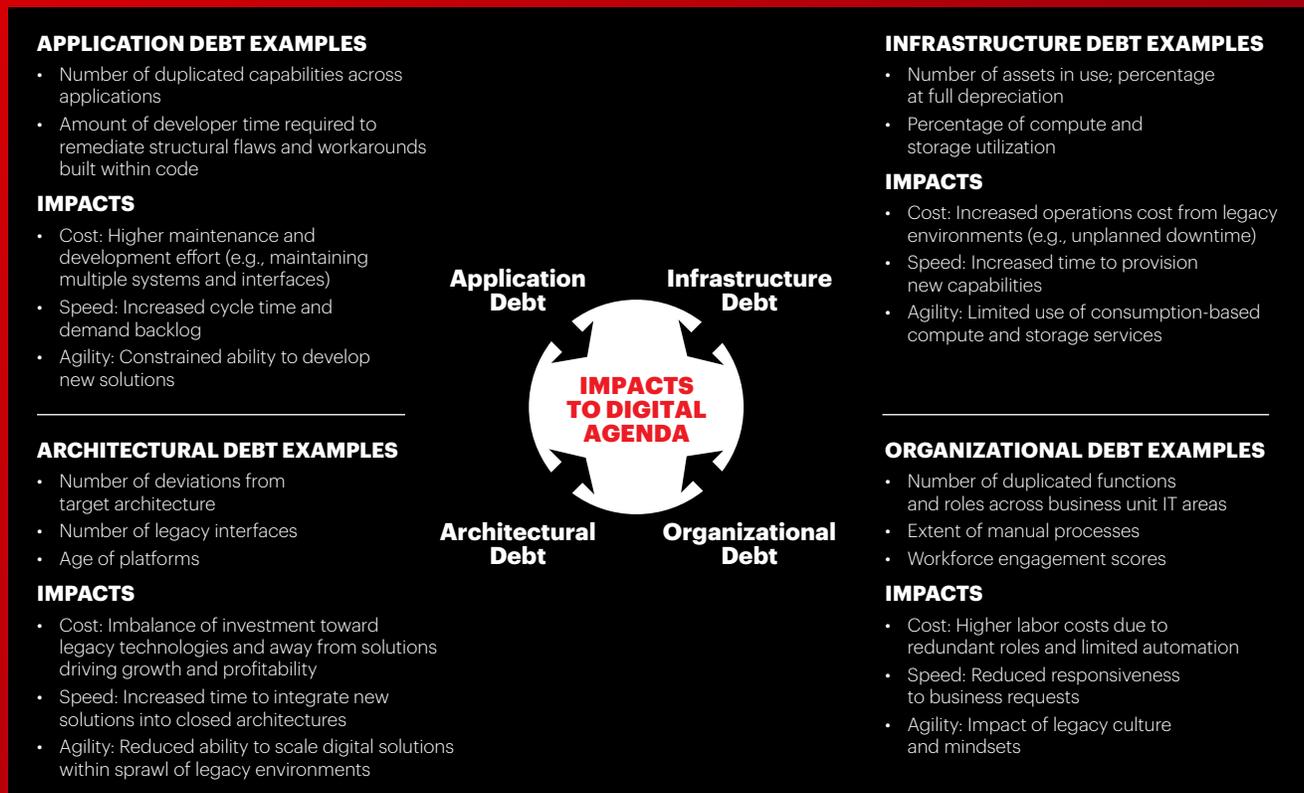
ADDRESSING TECHNOLOGY DEBT TO RETAIN—OR RECLAIM—COMPETITIVE ADVANTAGE

To create a strategy for dealing with technology debt, executives must gain a full understanding of it and what it is doing to their organization's ability to innovate.

The best place to start in calculating technology debt is by looking at the combination—and compounding effect—of application, architecture and infrastructure debt. Within each of those are hidden costs around people and processes. The costs might come in the form of different people performing the same tasks on different platforms, the rework necessary to transfer data from one system to another, or the inefficiencies created through manual processes that could be automated. As shown in Figure 1, CIOs can provide a meaningful rendering of technology debt to provide visibility to the entire leadership team to begin to identify, assess and quantify technology debt and its areas of impact.

Figure 1. Technology debt pressures

APPLICATION DEBT EXAMPLES
- Number of duplicated capabilities across applications
- Amount of developer time required to remediate structural flaws and workarounds built within code

IMPACTS
- Cost: Higher maintenance and development effort (e.g., maintaining multiple systems and interfaces)
- Speed: Increased cycle time and demand backlog
- Agility: Constrained ability to develop new solutions

ARCHITECTURAL DEBT EXAMPLES
- Number of deviations from target architecture
- Number of legacy interfaces
- Age of platforms

IMPACTS
- Cost: Imbalance of investment toward legacy technologies and away from solutions driving growth and profitability
- Speed: Increased time to integrate new solutions into closed architectures
- Agility: Reduced ability to scale digital solutions within sprawl of legacy environments

INFRASTRUCTURE DEBT EXAMPLES
- Number of assets in use; percentage at full depreciation
- Percentage of compute and storage utilization

IMPACTS
- Cost: Increased operations cost from legacy environments (e.g., unplanned downtime)
- Speed: Increased time to provision new capabilities
- Agility: Limited use of consumption-based compute and storage services

ORGANIZATIONAL DEBT EXAMPLES
- Number of duplicated functions and roles across business unit IT areas
- Extent of manual processes
- Workforce engagement scores

IMPACTS
- Cost: Higher labor costs due to redundant roles and limited automation
- Speed: Reduced responsiveness to business requests
- Agility: Impact of legacy culture and mindsets

Application Debt — Infrastructure Debt — **IMPACTS TO DIGITAL AGENDA** — Architectural Debt — Organizational Debt

With a complete view of technology debt, executives can focus their attention on unwinding it. A multi-speed IT approach allows them to do so while continuing to pursue innovation and other strategies for growth. There are key steps and associated behavioral changes that can help shift the enterprise from debt-laden to technology savvy.

Lose the buy-and-hold mentality in favor of an asset-light, pay-as-you-go model.

The days of the IT empire are over, as enterprises leverage digital platforms connecting customers, suppliers and technology service providers. With cloud, mobile and any number of as-a-service offerings, businesses can be nimble and streamlined and remain on the forefront of innovation.

Maintain digital relevance through parallel plays.

Innovation does not have to stop while technology debt winds down. Investing in acquiring emerging digital plays or starting greenfield programs can keep an organization in the game. These new digital plays can accelerate progress without the cumbersome drag of legacy. At the same time, companies are finding ways to tap into the data history that legacy often holds. Accenture Strategy found that 91 percent of executives have identified some legacy components that could be used to support digital objectives, with 37 percent saying they can integrate legacy with new technology most of the time.[5]

Adopt a "good debt/bad debt" approach, and begin making payments on the most critical technology debts.

Separating technology debt from forward-looking investments is an effective way to address the top risk areas to business growth and digital transformation. With this delineation, organizations can make progress in shedding poor assets. This practice of isolating bad debt into separate entities with specific goals and investment profiles has proven successful in banking and other industries.

Realign tech debt ownership across the C-suite and redefine the CIO role.

Just as all parts of the business are focused on innovation and the digital agenda, leadership should share responsibility for technology debt. An enterprise could distribute ownership of technology asset portfolios across the organization. This approach puts CIOs in a service broker role. From there, the CIO has oversight for managing versus owning the capabilities and services to transition effectively to the digital world, with the full awareness of the rest of the leadership team.

While business and the markets are cyclical, technology is not. Innovation does not look back. That is why it is imperative for organizations to shed systems and behaviors that are relics of the recent past. Moving forward in the digital world requires the ability to maneuver easily and accelerate toward one's goals. Executives need to make sure they have the right framework and freedom of movement to do so.
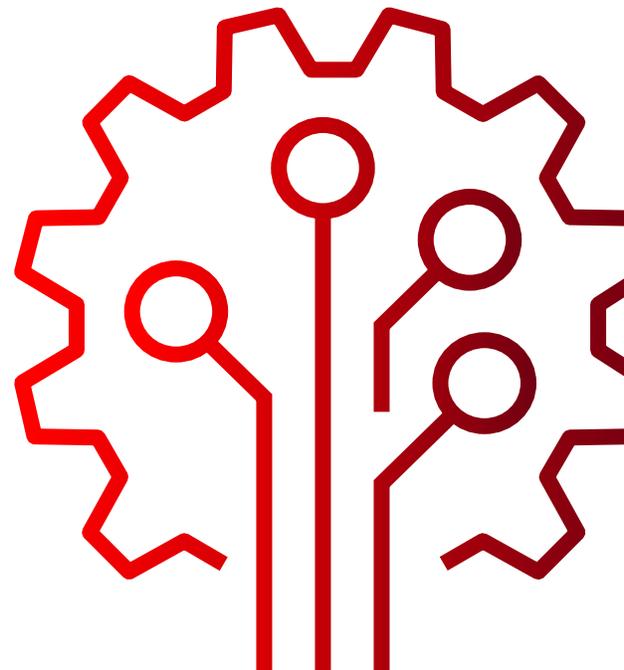
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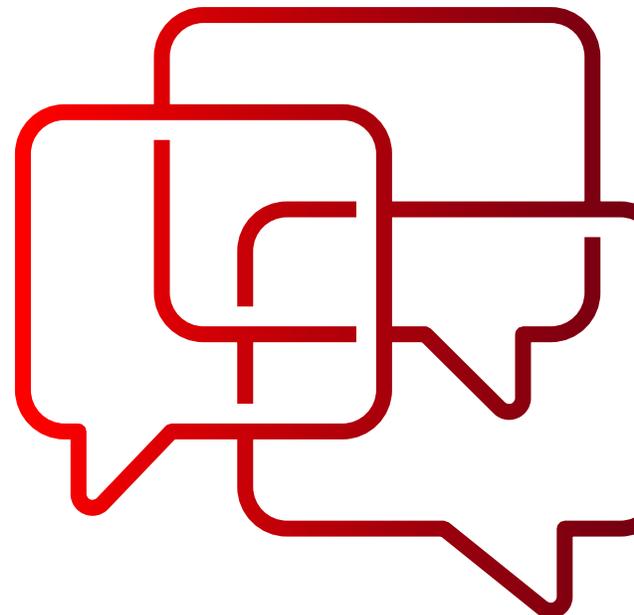🐦 @AccentureStrat

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NOTES

1. Accenture Digital Performance Index 2016

2. Accenture Tech Strategy survey 2016

3. Bridging the technology gap in financial services board rooms

4. The CFO as architect of business value

5. Accenture Tech Strategy survey 2016

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