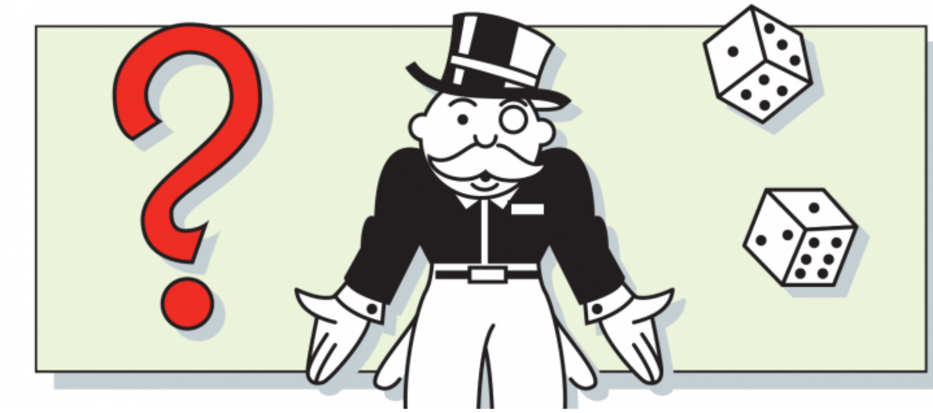

October 2020

FEATURE

Beware of Tech Debt

Be strategic about short-term technology decisions to avoid shortchanging your future.

BY JERRY SOVERINSKY

Print

Share

0 Comments (/issues/october-2020/beware-tech-debt)

After incurring a $40 late return fee for Apollo 13 at a Blockbuster store in the mid 1990s, Reed Hastings imagined a new business model: movie rentals by mail *without* late fees.

Just two years later, at a time when Blockbuster was peaking with more than 9,000 video rental stores worldwide serving more than 65 million customers, Hastings founded Netflix and launched its movies-by-mail offer. Blockbuster continued investing in brick-and-mortar stores.

Netflix gained market share, and it took Blockbuster nearly five years to introduce its own movies-by-mail offer, but by that time, Netflix had a firm footing in the marketplace (three million customers) without any store overhead and was already on to its next iteration of movie watching: its first-ever streaming service.

By 2009, forced to play tech catch-up, Blockbuster's expansion into video streaming was clunky and proved too little and too late. By 2013, Blockbuster rented its last movie and today, Netflix subscribers number 182 million worldwide.

Blockbuster's fate is the same that many other "too-big-to-fail" retailers have suffered: Slow to innovate and hastily adopting piecemeal technology to match the progress of its competitors, it instead took on an unmanageable amount of tech debt. Patchwork approaches to address the debt led to greater liabilities, until its Frankenstein-like infrastructure imploded.

Fade to black.

Popular Articles

FEATURE

What's Next for Foodservice? (/issues/august-2020/whats-next-foodservice)

By being flexible and responsive, the c-store industry weathers the pandemic and raises the bar.

FEATURE

The 'Vision' of Future Checkou (/issues/august-2020/%E2%80%98vision%E2% future-checkout)

Artificial intelligence, sensors and cameras combine to deliver a frictionless experience.

FEATURE

Long-Term Value (/issues/september-2020/long-term-value)

A Q&A with GreenPrint

FEATURE

Winning Over Women (/issues/august-2020/winning-over-women)

Retailers see growing opportunity with female-friendly stores.

FEATURE

Safe Guidance (/issues/september-2020/safe-guidance)

A Q&A with Lavi Industries

FEATURE

Thrive By Creating Good Jobs (/issues/september-2020/thrive-creating-good-jobs)

The Good Jobs Strategy encourages investing in employees and making key operational choices to decrease turnover, improve service and boost your bottom line.

Popular Categories

Blockbuster's story is instructive for convenience retailers. With myriad advancements in retail technology today—AI-driven checkout, mobile payments, digital CRM, cloud-based POS, IoT—convenience store operators face consequential decisions. For some, the adoption roadmap is strategic and deliberate, a proactive approach that is flexible and scalable. Still others delay investments without definitive consumer alignment, a reactive approach whose final product is less than optimal. Shortcuts taken today lead to greater investment requirements in the future, an accumulation of tech debt that threatens long-term success.

"
If every project is discrete—aimed at solving one problem—then leveraging capability through re-use becomes an afterthought.

WHAT IS TECH DEBT?

Very simply, tech debt is like other financial debt: Without the means to fully pay for something, we borrow what we need. For convenience store retailers, this means pursuing a compromised approach to deploying technology—a rush to market in some cases—a shortcut that requires future resources to address.

"It's the unrealized cost required to take a tech stack from where it is to where it should be," said Gray Taylor, executive director of Conexxus, in laying out the tech debt landscape for the convenience store industry.

According to Taylor, numerous factors contribute to tech debt, including:

- **Failure to align with standards and APIs:** By delaying alignment, costs escalate.
- **Failure to adopt a "platform" approach:** "If every project is discrete—aimed at solving one problem—then leveraging capability through re-use becomes an afterthought," Taylor said. "If retailers have a 'future back' platform strategy—having an architecture that supports operations in the future—they can then design each project to support that platform through re-use and use of common data definitions.
- **Failure of a "future-back" analysis:** "This is how you determine platform, a strategic planning that defines the technical needs 10 years out and works back from that goal to influence all you do in between," Taylor said. It is critical to avoid the "failure to adopt a platform approach" above.
- **Rush to market:** If management forces an IT team to cut corners to get a product to market, the compromise takes on tech debt.
- **Forced to adopt disruptor technology:** Implementing a cashierless store and its future enhancements, for instance, comes at a cost dictated by the disruptor.
- **The true cost of digital transformation:** The short-term, duct-tape approach at adoption adds future costs to remediate deficiencies.

Tech debt can be deliberate or accidental. In the rush to market scenario, the cost of delaying market entry can outweigh the tech debt. As such, a company may decide it is in their best interest to proceed, knowing they will have to invest money later to properly construct its infrastructure.

Alternatively, if companies discover that a third-party design is flawed but they are unable to make revisions without considerable cost, the tech debt accrues accidentally.

Tech debt is not unique to the uninformed or ill-prepared, though. "We all have tech debt; it's something you want, to some degree," Taylor said, "but you must

YOU'RE NOT ALONE

The problem of tech debt is pervasive and extends far beyond the c-store space. An Accenture survey of 1,000 c-suite executives revealed:

- NACS News »
- Feature »
- Retailer Focus »
- Trends and Research »
- Foodservice »
- Inside Washington »
- Legislative »

use it responsibly, knowing that it will need to be repaid at some point."

70%
say technical debt severely limits their IT function's ability to innovate

72%
say it greatly limits their ability to migrate to new technologies

69%
say IT is less capable of responding to market dynamics

67%
want to replace all their legacy systems

HOW TECH DEBT IMPACTS GROWTH

Tech debt is not a theoretical liability and in fact is weighing considerably on convenience store retailers. As an industry, "our current state is dire," Taylor said. "Innovation is expensive and labor-intensive, making any response to disruption feeble. A digital culture is difficult to establish, a tech stack is expensive to maintain and any benefits that AI offers are elusive."

Over time, the reactive retailer continues to bloat legacy systems with updates and quick fixes that make pursuing a true digital transformation costly, if not prohibitive. "Companies seeking to expand their businesses ... may find themselves hindered by an untenable IT environment," according to MIT Sloan Management Review, "a patchwork of hundreds of different systems that slow collaboration and make it difficult to scale innovation."

HOW TO MANAGE TECH DEBT

Like any debt, tech debt eventually must be repaid. The impact will be greatest if this occurs during a period of financial instability. For instance, companies reeling from the COVID-19-related shutdown during the past several months could find things untenable if their antiquated legacy systems failed, requiring a comprehensive overhaul. In such a case, retailers could either (somehow?) pay off the debt or else make emergency IT tweaks that provide, at best, temporary reprieve.

In other times, the company that remains vigilant to escalating tech debt and adopts a strategic payoff plan will be able to manage the liability. "Technical debt is often unavoidable and can even sometimes make good business sense. It's not about avoiding technical debt completely, it's about keeping it within reasonable bounds," said Scott Ambler, vice president and chief scientist for disciplined agile at the Project Management Institute. "Much like a financial balance sheet, you need to think of keeping a healthy technical balance sheet—one with a strong debt-to-equity ratio."

Below are a few ways to prevent tech debt from spiraling out of control.

1. **Leverage debt:** Just as companies would leverage a business loan to invest in their business and expand operations, they can leverage tech debt to deliver value to customers. If that is implementing additional touchpoints to customers, measure the return on investment to ensure that the debt remains manageable.
2. **Eliminate shortcuts:** While the rush to market is often important to gain market share, pursuing poorly designed solutions is a losing long-term strategy.
3. **Gain perspective:** Proper tech debt management requires a clear understanding of the scope of that debt—often an elusive figure, as tech debt does not show up on a company's balance sheet. For that, retailers may need to tap third parties to assess their technology and address any shortcomings.
4. **Allocate sufficient resources:** Staying on top of tech debt and paying it down successfully requires a deliberate allocation of time and resources. Whether retailers are working with an internal IT team or outsourcing work to third parties, providing them with the proper resources and time to manage and reduce debt is critical.

CONEXXUS IS TACKLING TECH DEBT

While many companies face tech debt alone, NACS is working with Conexxus to help retailers make a collective fight—or at least one where the debt remains manageable. "At Conexxus, we're building a framework that allows the suppliers of services and the people consuming those services (retailers) to have a common way to work together so that they're not always starting over from scratch," Taylor said. "The only way to bring the entire industry through this is with standards. Once we have standards and APIs in place, the smallest player will be able to implement change." (To learn how Conexxus is working on the behalf of the industry to develop and implement standards and technology innovations, go to www.conexxus.org (https://www.conexxus.org/).)

> "Once we have standards and APIs in place, the smallest player will be able to implement change.

While larger retailers maintain their own internal IT department, a standards approach will eliminate the need for them to "pay their own way," according to Taylor. "How you control a fuel dispenser or mobile application, we all need to do that. It should be defined through APIs and microservices."

Currently, Taylor said the approach has been piecemeal and anything but standard. "About 75% of retailers aren't taking a firm stance on digitization." While nearly 100,000 c-stores are segmented, he said that most still align with oil companies. "This is where the smaller guys need to understand that they need to move the needle and sit down with their dealers and talk about what to do for data security, for instance. … They [oil companies] come out with mobile apps that push their brand, but those have nothing to do with inside sales."

The stakes are high, with the impact clearly visible—if not in the c-store space than certainly around it. "Over the last few months [as indoor dining shuttered] and people pivoted to curbside delivery, we learned just how inflexible our existing tech stack is," Taylor said. "And people incurred tech debt to address it." And as the EMV deadline approaches, things promise to escalate. "We're going to lose 5% to 6% of our sites because of EMV," Taylor said. (For more on the EMV deadline and dire consequences of non-compliance, visit When the Chips Are Down (https://www.nacsmagazine.com/issues/october-2020/when-chips-are-down).)

"If you're not thinking two to five years down the road, somebody [or something] will take you out of business," he said.

Related:
Feature (/category/Feature), Retailer Focus (/category/Retailer-Focus), Technology (/category/Technology)

ABOUT JERRY SOVERINSKY

Jerry Soverinsky is a Chicago-based freelance writer and NACS Magazine contributing writer.

NACS

NACS serves the global convenience and fuel retailing industry by providing industry knowledge, connections and issues leadership to ensure the competitive viability of its members' businesses.

About NACS Magazine

Subscribe (https://www.convenience.org/Media/NACS-Magazine/Subscribe/SubscriptionForm)

Advertise (https://www.convenience.org/advertise)

Editorial Guidelines & Submissions (/content/editorial-guidelines-submissions)

Permissions & Reprints (/content/permissions-reprints)

Contact NACS Media Group (/content/contact-nacs-media-group)

● Back to Top

HELP (HTTP://WWW.CONVENIENCE.ORG/HELP)